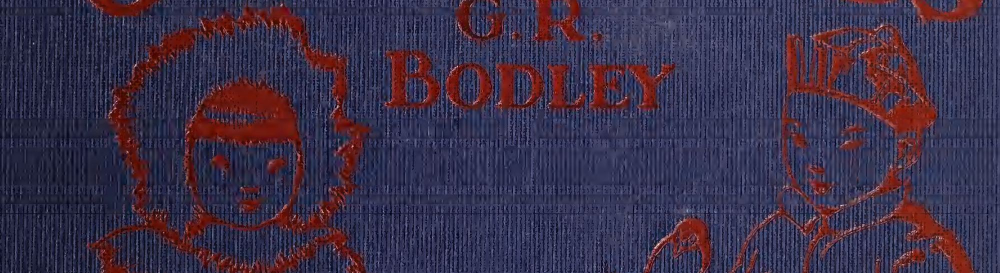
PEOPLES of OTHER LANDS

G. R. BODLEY



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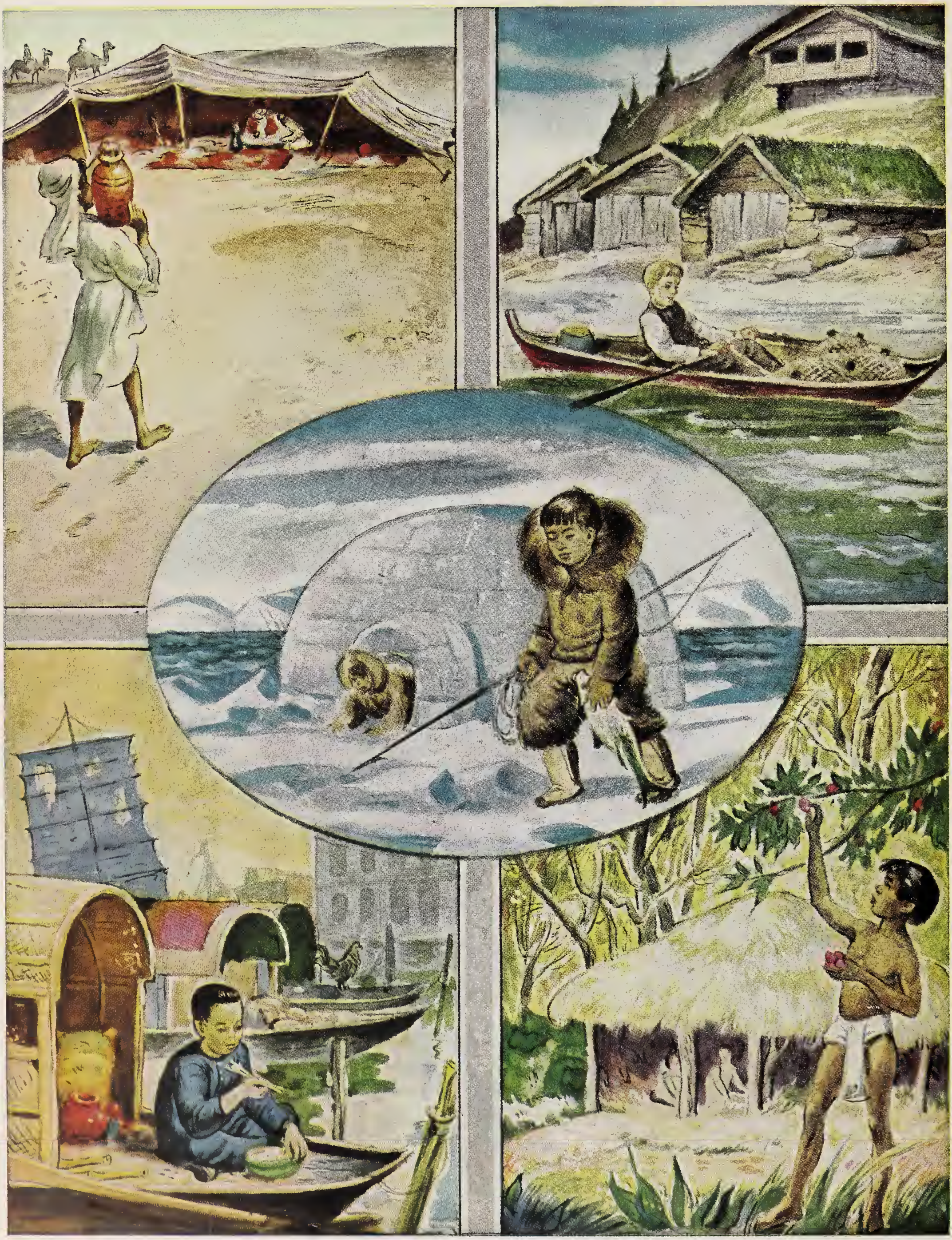

CHILDREN OF OTHER LANDS

These pictures show children from five different continents. The children live many miles from one another and many miles from where you live. What things in the pictures tell you that their lives are different from yours?

IROQUOIS GEOGRAPHY SERIES

PEOPLES OF OTHER LANDS

BY

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Superintendent of Schools
FULTON, NEW YORK

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NEW YORK CHICAGO ATLANTA DALLAS

TO THE TEACHER

1. PEOPLES OF OTHER LANDS contains complete text material for a full year's work.

2. Before taking up a new topic, have clearly in mind how it is related to the general purposes of the year's work. **These purposes are stated in the preface.**

3. Each topic in this book is treated as a unit. Should local requirements demand a different order of topics, the book lends itself readily to such adjustments. Wherever possible, however, follow the book order. This is important for three reasons: (1) It is much easier for young pupils to follow the order given. (2) The topics are arranged in a gradual progression. (3) The book order of topics provides most striking contrasts between each new region and the regions previously studied. In the study of each new region some new geographic factor is emphasized. These sharp contrasts and new factors stimulate and sustain interest. They aid materially in fixing essential geographic facts.

4. Encourage the children to bring to class objects related to the geographic work. Not infrequently, specimens of foreign plants, food products, or foreign-made objects will be contributed. Before you realize it you will have a small geographic museum. All such material is excellent for observational work, and helps to make the regions more real to the children.

5. Encourage the children to bring to class pictures, travel literature, and other pamphlets and books bearing on the regions studied. Very frequently newspapers contain informative material, news dispatches, and illustrations that have a distinct geographic value. Be sure, however, to use all such material in a manner and at a time to make it most effective.

6. Arrange room exhibits of pictures and objects for each topic. The children will take a live interest in making these exhibits effective.

7. Compare each new region studied with regions already studied, emphasizing striking differences in appearance and customs of peoples, in shelter, food, clothing, activities, densities of population, plant life, animal life, products, temperature, moisture, etc. Bring out the reasons for differences.

8. Emphasize throughout what is really significant, rather than what is merely novel.

9. Give your foreign child, or child of foreign parentage, his special opportunity to contribute to the class discussion. Because of personal experience or closer contact with other lands, his word will have special interest.

10. If possible, equip your classroom with a good globe. It is far superior to maps in giving children a clear conception of the earth as a whole. By its use they obtain accurate ideas of the shapes and relative sizes of the main bodies of land and water. So far as possible, locate geographic regions and features first on the globe and then on the reference map.

11. Map study is a new and vital feature of the geographic work of this year. At the start, place emphasis on the location of larger features. Then progress to details, without carrying the children beyond their depth. Locate each geographic feature on the reference map at the time of its mention in the text.

Teach map symbols as the need for their use arises. Give practice in reading maps, using the symbols. Map reading is more than locating places. It involves interpreting symbols and understanding the significance of locations, distances, relative positions, etc. After the children have become familiar with map reading, it will be helpful to have them discover significant facts about a new region by reading the map before reading the text.

Teach that the top of a map is not necessarily north. Make clear, however, that most maps do show in some way which directions are north, east, south, and west. This may be done by words, by arrows, by the position of the Equator, etc.

12. This book is a model of simple and direct language. Cultivate in the children the habit of expressing themselves orally and in writing with similar clearness and definiteness. It is the proper function of the teacher of geography first to see that pupils have clear, accurate ideas and then that they express them clearly and accurately.

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PREFACE

PEOPLES OF OTHER LANDS is a study of the effects of geographic conditions on life. In the main, these effects are made clear by a treatment of type regions of the earth which show the larger, more important geographic features. The detailed study of Australia is introduced at the close of the year as a transition to the work of the following grades. The general plan of the book emphasizes the following aims:

(1) To show the pupils how environment influences human life.

(2) To give an understanding of the size of the earth and its land and water areas.

(3) To teach the meanings of the symbols used on globes and maps to represent geographic features, and to develop skill in map reading.

(4) To emphasize the influence of the position of the sun in the regions studied.

(5) To train pupils to study geography rather than merely to acquire information.

The study of type regions gives the pupils a definite understanding of a wide range of geographic conditions and of the effects these conditions have on different peoples. The major problems worked out for each region are: (1) How do the people of the region obtain food, clothing, and shelter? (2) How do the physical conditions of the region affect the activities of its inhabitants?

Following a preliminary trip across our own land over the Lincoln highway, the study of type regions varies from regions whose peoples are very primitive to those where civilization is of advanced types. The work begins with what is simple and easily comprehended and advances to what is more complex and yet not requiring the greater knowledge and maturity of judgment demanded by the detailed geographic study of the higher grades. Each region studied introduces one or more new geographic factors of significant importance.

In building this textbook the general aims of the course have been realized in full measure.

Chapter Content. Each general topic is interestingly treated in story form, in language suited to the child. The child, of his own accord, will read these stories over and over again.

Included in the stories are attractive accounts of three trips—Across Our Country on the Lincoln Highway, Across the Sahara, and From New York to Australia. These travel stories afford a pleasing variety in the presentation of geographic facts.

Each chapter is followed by a summary of its important geographic facts, headed **I Should Remember.** Then comes a list of related topics for class discussion, headed **Some Things to Talk About.** Under the heading **Exercise** are simple, direct questions based on the text and covering its essentials. **Class Projects** extend and organize the pupil's knowledge, lead him to draw comparisons between regions, and provide a review and tie-up.

Reference Maps. The many reference maps in this book make it a simple matter to understand the use and value of maps and to read them intelligently. All maps are clear, strikingly effective, and free from confusing detail. Land surface features are shown by means of the simple, natural hachure method, which is easy for the pupil to interpret and reproduce.

The use of blue for showing water surfaces and boundary lines adds distinctness and attractiveness to the maps. Shore lines stand out sharply. The boundaries of countries and regions are clear-cut blue lines against a white background. Each area appears as a sharply-defined and easily-remembered unit.

Illustrations. The photographic illustrations supplement the text and add to its vividness. The grouping of well-chosen pictures at the beginning of each unit gives the pupil a stimulating preliminary survey of the material which follows and creates a desire to read the text. Live and effective legends strengthen this desire, and guide the pupil in the intelligent interpretation of the pictures.

Glossary and Index. A full glossary gives simple definitions of the geographical terms used in the book. The pronouncing index, together with the topical side headings in the text pages, make it an easy matter to locate quickly any term or topic desired.

A Work Book to Accompany Peoples of Other Lands. A separate work book makes special provision for pupil activities in map work, sketching, picture study, and the construction of simple charts. For each textbook unit, definite exercises properly related to the text are outlined.

PEOPLES OF OTHER LANDS and its related Work Book provide all essentials. They give the teacher her greatest teaching help, saving time and energy in the selection and presentation of material. In content and in aim and organization they meet standard requirements. They present all topics in systematic, orderly, and appealing ways. They provide for varied pupil activities. In all these things they set a new standard and give a new approach to the study of geography.

THE PUBLISHERS.

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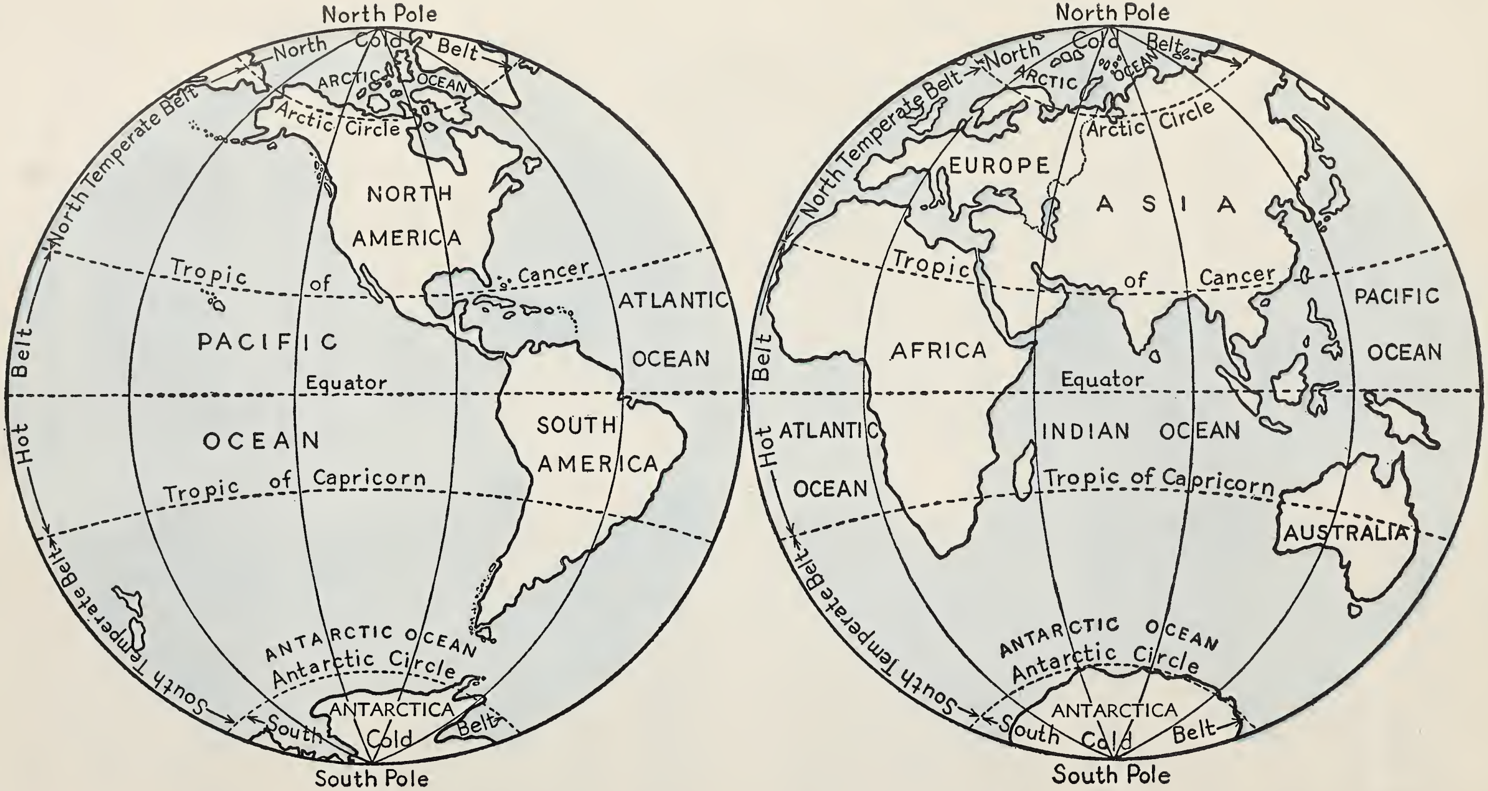
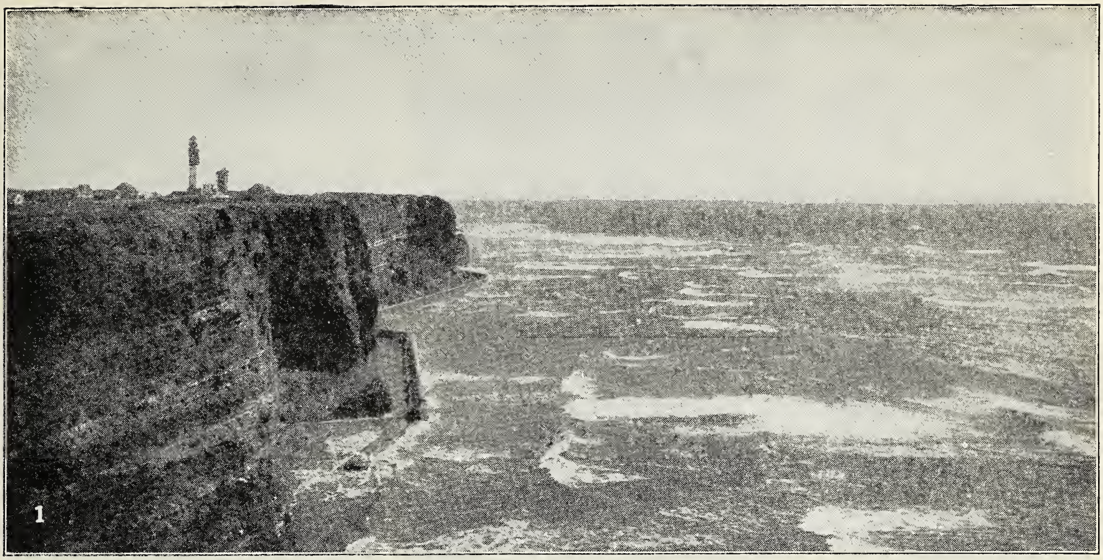
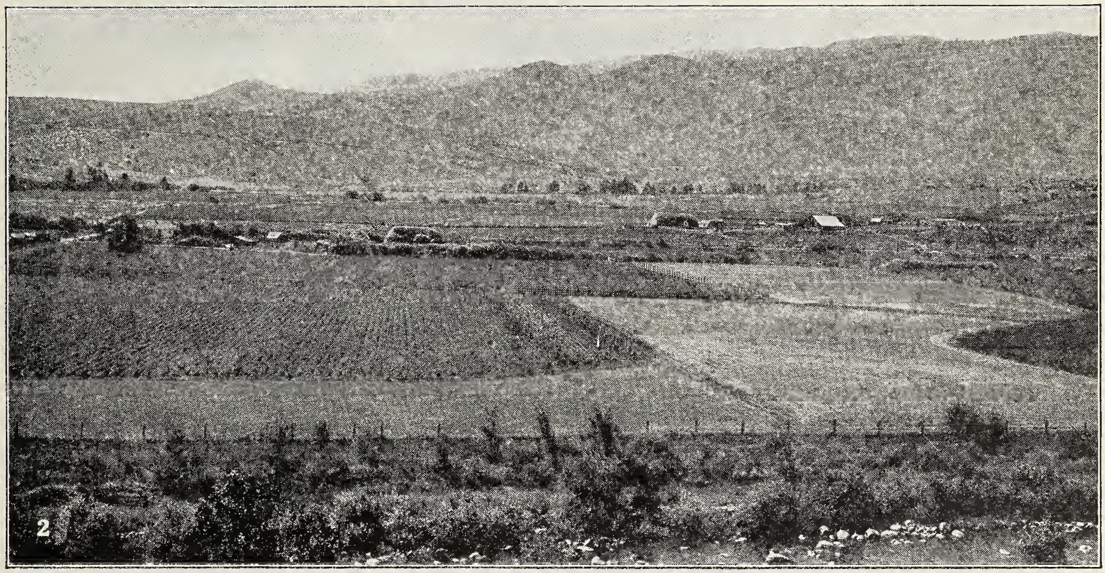


Here are two halves of the globe. They give us a good picture of this round world of ours. After looking at them, it is easy to understand that three-fourths of the earth's surface is water and only one-fourth is land. Find the five oceans and the seven continents. In this book you are going to visit many interesting parts of this world of ours, and learn how different people live and work.





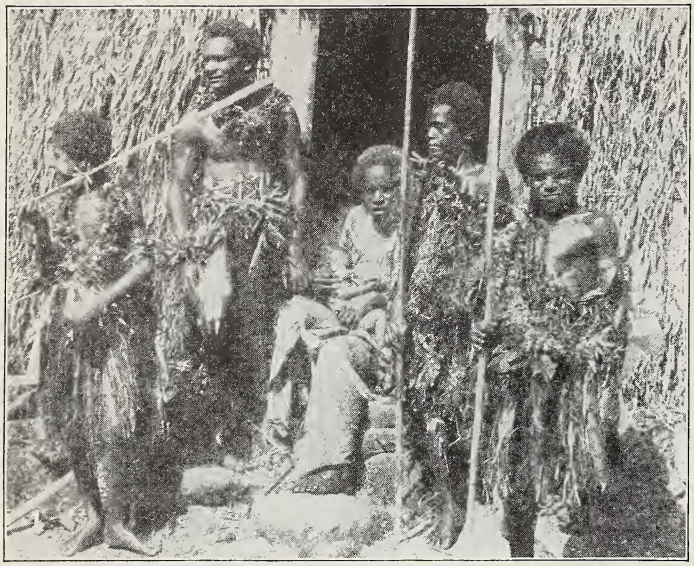
(1) Hamburg-American Line. (2) Reno Chamber of Commerce.

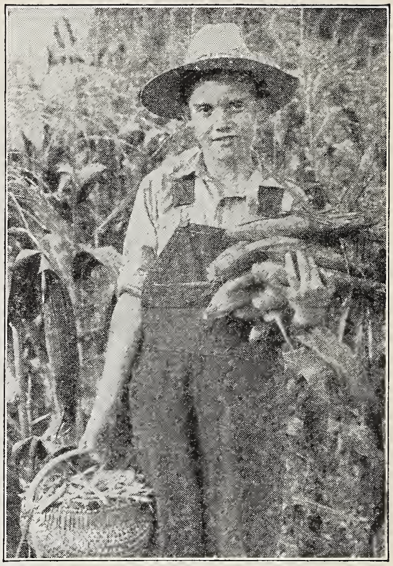
THE SURFACE OF THE EARTH

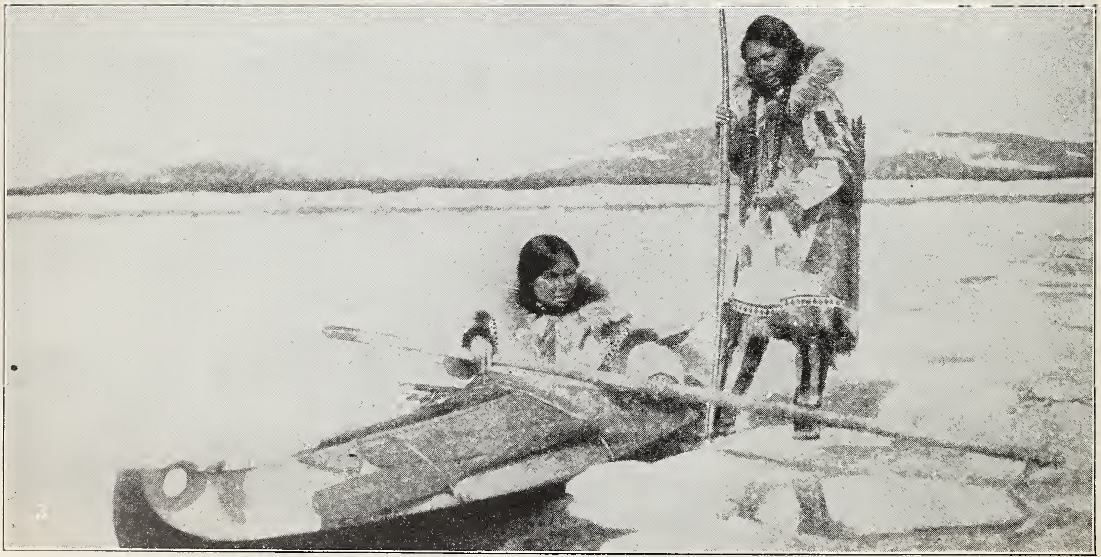
1. Water. About three-fourths of the earth's surface is water. The rest is land. There are great bodies of salt water, called oceans. Arms of the oceans, called seas, gulfs, or bays, cut into the land. Fresh-water streams formed from rain and snow in the mountains tumble down the mountain slopes and help to form larger streams, or rivers. The rivers flow into lakes or into the oceans. Where land and ocean meet is called seacoast. In some places the seacoast is high and rocky, as this picture shows. In other places there are low marshes or flat, sandy beaches. The waters of the earth supply man with drink and with many kinds of fish. Over the water man sails on ships that carry passengers and goods from place to place.

2. Land. Only about one-fourth of the earth's surface is land. The land is made up of plains, mountains, and valleys. Parts of it are too rocky or too dry for raising crops. But where there is good rich soil and plenty of water, plants flourish and crops can be grown, as in the fields in the picture. If it were not for the plants which grow on the earth, man and animals would die for want of food. Because streams and heavy rains wash the soil from the mountain sides their slopes are usually too rocky for growing crops. But the mountains are very useful to man because buried in them are iron and coal and other materials he needs. Then, too, forests grow on the slopes of many mountains, and their trees furnish wood for building.

LIFE IN THREE TEMPERATURE BELTS OF THE WORLD







(1) By Burton Holmes from Ewing Galloway, N. Y. (2) J. C. Allen, West Lafayette, Ind. (3) Publishers' Photo Service, N. Y.

1. In the Hot belt, near the Equator. These natives of the Hot belt do not need warm houses and warm clothes. Food plants grow wild, and it is not necessary to work hard to raise crops. The natives build their homes of grasses and live by hunting and on fruits. Some of them raise a little corn and keep a few cattle. Life is very simple in the Hot belt.

2. In the North Temperate belt. The people of the North Temperate belt must work hard to get their food. They must learn what will grow best on their land, must plant the seeds, keep the soil loose around the growing plants, and harvest the crops when they are ripe. The boy in the picture has been gathering corn and string beans from his father's fields. The farm is near a town, where the farmer can sell his crops. With the money he receives he buys the things he needs which can not be raised on his land.

3. In the North Cold belt. These people are Eskimos. They live in a land where the winters are long and cold and the summers are too short and cool to raise crops. Ice and snow cover most of their country all year round. The picture was taken in summer time, and the ice along the shores is breaking up. The Eskimos live in tiny villages, in small huts made of stone or of earth. They live almost entirely on the meat of animals which they kill with spears or with bows and arrows. Eskimo families must provide everything for themselves.

THIS ROUND WORLD OF OURS

Many, many years ago people had very strange ideas of this world in which we live. They knew that if they traveled far enough in any direction they would come to some body of water so great that no land could be seen beyond it. Far out would be a line where water and sky seemed to meet. So they said, "Why, this world of ours is just a great mass of land floating in water. The water extends on and on until the sky curves down to meet it."

OUR WORLD— A GREAT BALL

As time passed, daring sailors discovered new and distant lands. Many things made men wonder if, after all, the world was not shaped like a ball. There seemed only one way to prove it. They knew that if you start at any point on a ball and trace a line around it in any one direction, you finally come back to the starting point. So courageous sailors sailed away in the hope that by journeying around the world they would reach home again.

At last one ship actually did sail around the world and reach home again. Of course, this ship did not sail in a straight line. Naturally it had to go around lands that blocked its path. But it had answered the question as to the shape of the world. Now we all know that our world, or earth, is an immense ball.

The earth is so large that we cannot get far enough away from it to see it as a great ball with its surface of land and water. When we look about us we can see but a tiny bit of the earth's surface. If we climb a mountain and look off from the top, we see but a very small part of the world. Even if we went high up in an airplane, we still could not see the earth as a ball—it is so very, very large.

It is hard to understand how huge our earth really is. If you and I were able to walk round the earth, we would be many years older by the time we reached home. If we traveled across the lands by train and over the water by boat, the trip would take us many weeks. If we flew in a swift airplane the trip would take only a few days, but we would learn little about how the people live.

To get a clear idea of what our world looks like, we need to see a good picture of it. The best picture of the earth is a globe. A globe is a large ball on the outside of which is painted or printed a picture, or map, of the land and water surface of the earth. It shows us how our earth would look if we saw it from far, far off in the sky.

THE POLES— DIRECTIONS

Look at a globe and see how it is made. Notice that it turns around a rod which runs through it and is fastened to a standard. Near the top of the globe, where the rod comes through, you will find the North Pole. Near the bottom of the globe, at the other end of the rod, is the South Pole. Wherever you are on the earth, if you go toward the North Pole you are going north; and if you go toward the South Pole you are going south. So you see that south is opposite north.

There are two other main directions on the earth: east and west. As you face the globe, east is to your right, and west is to your left.

THE EARTH'S SURFACE

On a globe, the water surfaces of the earth are usually colored blue, and the land areas are shown in other colors. This makes it easy to tell the land from the water. Look at the globe again. Turn it until you have seen all its surface. Do you notice that there is much more water surface than land? About one-fourth of the earth's surface is land, and three-fourths is water.

CONTINENTS AND OCEANS

Suppose you turn the globe until you see two large bodies of land, one south of the other. They are connected by a narrow strip of land. We find the name North America on one of these. The other great land is named South America. These two large bodies of land are called continents. We live on the continent of North America. What large body of land do you find south of South America, at the South Pole? It is the continent of Antarctica.

Notice the large bodies of water that touch these three continents. They are called oceans. North of North America is the Arctic ocean. To the east of North America and South America is the Atlantic ocean. South of South America is the Antarctic ocean, and west of North America and South America is the largest ocean in the world, the Pacific ocean. Find each of these oceans on the globe. Their names are printed on them.

Suppose you turn the globe very slowly to the left, so that more and more of the Atlantic ocean comes into view. Suddenly some more land appears. It is another continent, called Africa. North of Africa is Europe, a smaller continent. Keep on turning the globe and you will see the largest continent of all. It is Asia. South of Asia is the smallest continent, Australia.

Suppose you look for oceans again. You already have seen four, the Atlantic ocean, the Pacific ocean, the Arctic ocean, and the Antarctic ocean. South of Asia we find another ocean, the Indian ocean. Now turn the globe about and count the oceans and the continents. You will find there are five oceans and seven continents.

As you have been turning the globe you have seen many smaller bits of land, wholly surrounded by water. They are too small to be called continents, and are called islands.

THE SUN AND THE NORTH STAR

In our part of the earth, the sun is in the south at noon. If you face the sun at noon, you will be facing south, and your shadow will be behind you. Toward what direction will your shadow point? What direction will be to your left? To your right?

You also know that the sun rises in the east and sets in the west. So you see that the sun can help you to find directions.

Above the North Pole is a star called the North Star. You can see this star at night when the sky is clear. Ask someone at home to point out the North Star to you. Whenever you are traveling and facing this star, you are going north. What direction will be to your right? To your left? Behind you? Years ago, when there was no other way of telling direction at night, travelers used the North Star to guide them.

DAY AND NIGHT

Put a long knitting needle through a rubber ball. Hold the ball in the sunlight or before an electric light. See if you can turn the ball on the knitting needle so that all its surface will be brightly lighted at the same time. You can't do it. Part of the surface of the ball is in shadow. As you turn the ball, the part that was light becomes dark, and the part that was dark becomes light. That is just what is happening to our world.

The earth turns completely around once each day just as we made the globe turn round on the rod, or axis. As the earth turns, it is daytime on the part of the earth that faces the sun and it is nighttime on the part of the earth that is away from the sun. While the sun shines on part of the great earth ball, the remainder of the earth is in shadow, or darkness. The dark and the light parts are constantly changing. So, with each complete turn of the earth, we have day and night.

Can you see why some children in distant lands are going to bed when we are getting up, and why some children on the other side of the world are looking at the stars when the sun is shining for us?

DIFFERENT WAYS OF LIVING

As you look at the globe, think of all the lands north, south, east and west of us where children must be living and playing and learning! But these children are not all living just as you do. Many eat different foods and live in very different kinds of homes. Many of them do not even have the same kinds of weather that we have. Think of it! There are some children who can play in the snow all the year round, and who live in snow houses. There are other children who live in lands where it is hotter all the year round than it is in our country in the hottest days of summer. There are children who live in dense woods, and others who never see a tree. Of course you wonder how this can be.

WHY SOME LANDS ARE HOTTER THAN OTHERS

We know that the sun goes much higher in the sky during the summer than in winter, and that it is usually much hotter at noon, when the sun is more nearly overhead, than it is in late afternoon when the sun is far down in the sky. The position of the sun, then, has much to do with the temperature, or heat, of a region.

THE HOT BELT OF THE WORLD

Around the middle of the world, halfway between the North and South Poles, is a great belt of land and water. In this belt the sun is more directly overhead than in any other part of the world. Just imagine how hot this belt must be! It is so terribly hot that it is called the Hot belt of the world. Right through the center of this belt, equally distant from the North and South Poles, is an imaginary line called the Equator. The Hot belt, itself, extends from an imaginary line around the earth north of the Equator, called the Tropic of Cancer, to an imaginary line south of the Equator, called the Tropic of Capricorn. Find the Equator, the Tropic of Cancer, and the Tropic of Capricorn on the globe.

THE TEMPERATE BELTS

Next to the Hot belt, to the north and to the south, are two other world belts, called the Temperate belts. These belts do not have such hot weather as the Hot belt for here the sun is never so nearly overhead.

The North Temperate belt lies between the Tropic of Cancer and an imaginary line called the Arctic Circle. We live in the North Temperate belt. The South Temperate belt lies between the Tropic of Capricorn and the Antarctic Circle. In these two belts there are four seasons, spring, summer, fall, and winter.

THE COLD BELTS

Around the North Pole and around the South Pole are two other belts. These are called the Cold belts. In these belts the sun is always way, way down in the sky, when it shows at all. Because of this, the weather is very cold most of the year. The North Cold belt covers all of the earth's surface north of the Arctic Circle. The North Pole is at its center. The South Cold belt covers all the earth's surface south of the Antarctic Circle, and the South Pole is its center.

HOW A GLOBE TELLS ITS STORY

As you look at the globe, you see many names and odd marks and lines. There are crooked lines running here and there across the lands. These mean rivers. There are little spots of blue in the land areas, which mean lakes. When you understand the meanings of these signs you can make a map or globe tell you many things.

MAPS—FLAT PICTURES OF THE EARTH

However, a globe is not always at hand. Then, too, we wish to know more about a region than a globe can tell. So we make flat pictures, or maps, of the world, or of parts of it. These maps can be printed in our books and are easy to study.

In the pages that follow, we are going to learn about lands and people in the Hot belt, the Temperate belts, and the Cold belts. We are going to take imaginary trips across land and sea. We are going to see interesting sights and have exciting times. Travelers often find their way about in lands they do not know by using maps of these lands. In the same way, you will find how useful maps will be in telling about the regions you study. And after reading what the maps have to tell you, won't it be fun to build maps of your own? You are going to have many chances to do this.

When you have your picture taken, you want it to look as nice as possible. Your map is a picture. Make your maps clear, neat, and attractive, and keep them clean. Be sure that they show everything just as it is. Then you will be proud to say, "I made these maps."

I SHOULD REMEMBER

1. Our world is an immense ball.
2. About one-fourth of the earth's surface is land and three-fourths is water.
3. Large bodies of land are called continents. Large bodies of water are called oceans. There are seven continents and five oceans on the earth's surface.
4. We live on the continent of North America. Connected with it by a narrow strip of land is the continent of South America. The other five continents are Europe, Asia, Africa, Australia, and Antarctica.
5. The Atlantic ocean is east of North America and South America. The Pacific ocean is west of these two continents. The Arctic ocean is in the far north and the Antarctic ocean is in the far south. The Indian ocean is south of Asia.
6. Toward the North Pole is north and toward the South Pole is south. The North Star is over the North Pole. When we face the north, east is to our right, and west is to our left.
7. The earth turns completely around once each day. It is daytime on the part of the earth that faces the sun, and nighttime on the part of the earth that is away from the sun.
8. The position of the sun has much to do with the temperature, or heat, of a region. It is usually hotter when the sun is more nearly overhead.
9. The Hot belt is a great belt of land and water around the middle of the earth. In this belt the sun is more directly overhead than in any other part of the world. Through the center of this Hot belt and equally distant from the poles is the Equator. The Hot belt extends from the Tropic of Cancer to the Tropic of Capricorn.
10. The North Temperate belt lies between the Tropic of Cancer and the Arctic Circle. The South Temperate belt lies between the Tropic of Capricorn and the Antarctic Circle. The Temperate belts have four seasons—spring, summer, fall, and winter.
11. Around the North Pole and within the

Arctic Circle is the North Cold belt. Around the South Pole and within the Antarctic Circle is the South Cold belt. In these belts the sun is always low in the sky, when it shows at all. Here the weather is very cold most of the year.

SOME THINGS TO TALK ABOUT

1. The size and shape of our world.
2. The globe and what it tells us about the world.
3. Continents and oceans.
4. What the sun does for us.
5. The temperature belts of the world.

EXERCISE

1. Tell one of the strange ideas people once had of this earth.
2. What happened that made people think that the earth is round?
3. How do we know that the earth is very large?
4. What part of the world's surface is land, and what part is water?
5. What is a globe? How does it help us to gain an idea of the world?
6. How does the globe give us a picture of the world?
7. How many continents are there? Name them.
8. On what continent do you live? What continent is south of it?
9. What name is given to great bodies of water?
10. How many oceans are there? Name them.
11. Toward what must you go in order to travel north?
12. What causes day and night?
13. How does the position of the sun in the sky affect the heat of any place?
14. Where is the Hot belt of the world? What imaginary line passes through its center? Why is it so hot in the Hot belt?
15. What belts of the world lie just north and just south of the Hot belt? What imaginary lines bound them? Name the seasons in these two belts.
16. Where is the North Cold belt? The South Cold belt? Name the center of each. Why is it so cold in these belts most of the year?
17. Where is the North Star? How do the North Star and the sun help us to tell directions?
18. Name the belts in order from north to south.
19. What is a map?

GLOBE STUDY

1. As you look at the globe, what ocean is east of Asia? North of Asia? What ocean is north of Europe? West of Europe?
2. What three oceans touch Australia?
3. In what direction from Australia is the continent of Antarctica?
4. What direction is Europe from Asia? What direction is Africa from Europe?
5. Name the continents in order of size.
6. Point to some place on the globe. Show how you would go from this place to the North Pole. From the same place, show how you would go to the South Pole.

OUR OWN UNITED STATES

FROM COAST TO COAST ON THE LINCOLN HIGHWAY

Do you know how wonderful is the country in which you live? Let us take an automobile trip across this broad land of ours, and learn something of its high mountains and wide plains, its fertile valleys and its great desert, its cities and its farms.

THE LINCOLN HIGHWAY

It will be a long trip of over 3100 miles, and will take more than two weeks. We shall start from New York City and go west over the Lincoln highway, which stretches like a long silver ribbon across our country from coast to coast, with San Francisco at its western end. This fine road was laid out in 1913, and is one of the principal highways across the United States. It was named for our great President Lincoln. This is only one of many highways which together form a giant network over the country. From these, other roads branch off in every direction. In this way towns and cities are linked together by good roads which greatly increase trade and travel.

The Lincoln highway is divided into thirty-one sections, each about 100 miles long. Some days on our trip we shall cover only one of these sections, for we plan to get acquainted with a few of the important cities on the route. As we travel along, let us trace our path on the map and note the larger cities we pass through, and the important rivers we cross.

NEW YORK TO PHILADELPHIA

OUR GREATEST CITY—NEW YORK

It is early morning when we set out. New York, our starting point, is the largest city and the greatest seaport in our country. We travel down Broadway, an important street through the heart of the business section. All about us are wonderful high buildings, which tower from thirty to a hundred stories above the street level. Most of them are office buildings. The streets are jammed with automobiles, trucks, busses, and taxicabs. We hear the roar of the elevated trains which run above some of the streets. Crowds of people pour up the stairs from the stations of the subways, or underground railroads. In this great city millions of people live and work.

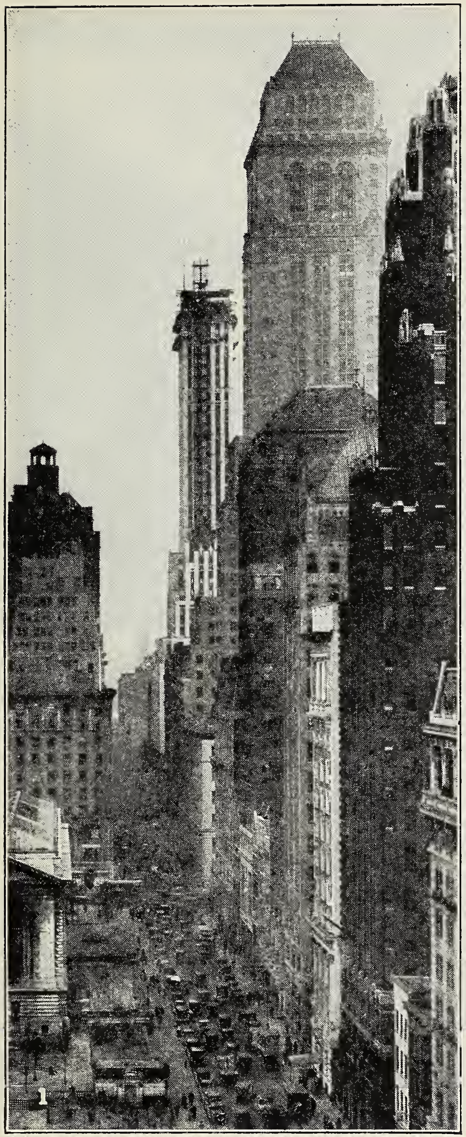
UNDER THE HUDSON RIVER

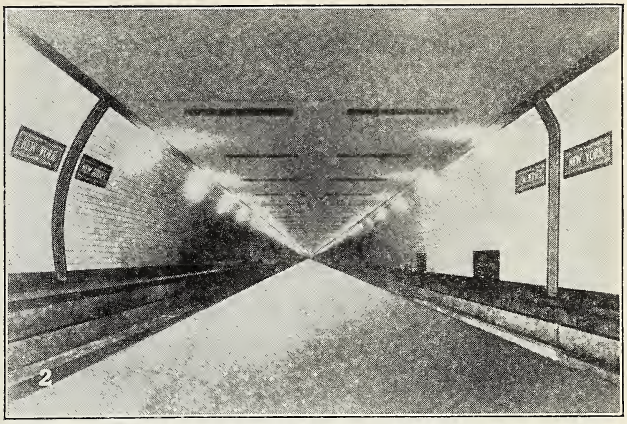
We turn west from Broadway on a cross street which leads to the Hudson river. As we approach the river, we meet many large busses bringing people into the city. We pass huge trucks laden with manufactured goods and food supplies. We can cross the Hudson river at New York City over a bridge or on a ferry boat. But how thrilling it will be to ride through a great brightly lighted tunnel under the river and to know that its waters are flowing just above us!

As we enter the tunnel, our ears are filled with the roar of machinery pouring fresh air into this huge tube. The road slopes down until it is under the deepest point in the river. Then it slopes up, and in a few minutes we are on the west side of the Hudson, in Jersey City.

Let us drive along the river front. Great ocean steamers, or liners, are tied up at the

THE START OF OUR JOURNEY ACROSS THE UNITED STATES





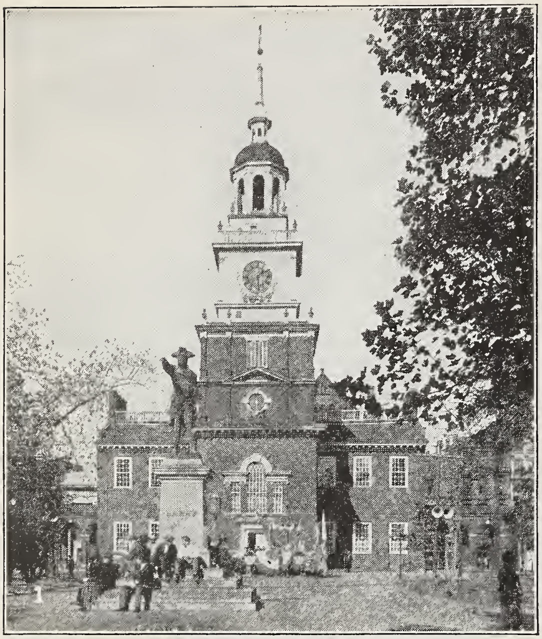
(1) Publishers' Photo Service, N. Y. (2) (3) By Ewing Galloway, N. Y.

1. A busy street in New York City. We start from New York on our automobile trip across the United States over the Lincoln highway. As we drive through the city, tall buildings surround us on every side. Some of them are among the most beautiful buildings in the world. These buildings extend deep into the ground, and reach high into the air. Their frameworks are of steel. At the top of an unfinished building in this picture we can see a part of its framework.

2. One of the tubes of the great tunnel under the Hudson which connects New York and Jersey City. Leaving New York City, we enter this automobile tunnel. It is really two tunnels laid side by side. West-bound traffic moves in two lines through one tube, and east-bound traffic moves in two lines through the other. We see in this picture the point in the tunnel where New York state ends and New Jersey begins.

3. The Washington Crossing bridge, near Trenton, New Jersey. After leaving the tunnel under the Hudson river, we cross the state of New Jersey to the city of Trenton on the Delaware river. Not far from Trenton is this bridge. It is built at the point where, more than one hundred and fifty years ago, General George Washington and a small force of American soldiers crossed the Delaware river and defeated a British force in a very important battle.

OUR TRIP THROUGH PENNSYLVANIA



(1) (3) Publishers' Photo Service, N. Y. (2) By Ewing Galloway, N. Y.

1. Independence Hall, in Philadelphia. In the afternoon we reach Philadelphia, a city with many docks and factories. As we go through the city we stop at the famous building shown in the picture. In one of its rooms, on July 4, 1776, the Declaration of Independence was signed. By this act our country declared itself free from England. The glorious news of the signing was rung out by the bell which hung in the tower. Ever since that time the bell has been called the Liberty Bell. It is now kept inside the building. The statue in front is of John Barry, one of America's first great naval heroes.

2. Forest-covered mountains of the Appalachian highlands. We leave Philadelphia the morning of the second day to drive through this beautiful region. At first we find fertile valleys with fine farms, fields, and orchards, nestled between the mountains. As we drive farther, the mountains are higher and steeper, and we find few farms because the soil is not rich enough to grow crops.

3. Steel mills at Pittsburgh. As we approach the western part of the Appalachian highlands we pass coal mines and many foundries where iron and steel are made, and finally come to the busy city of Pittsburgh. Pittsburgh grew into a large city because coal and iron were found nearby and because its manufactured goods could be shipped cheaply down the Ohio river. Today Pittsburgh is a railroad center as well as a river port. So much iron and steel are made in Pittsburgh that the city is called "the workshop of the world."

THE DOCKS

docks. Across the river we can see other liners at the docks of New York City. These vessels are unloading coffee, rubber, tea, rice, silk, and other things which they have brought from far away countries. Other ships are loading cotton, grain, coal, oil, and machinery. These will be shipped out of the Hudson river, across New York bay, and over the broad Atlantic to distant lands.

As we leave the docks in Jersey City, we travel for several miles along streets that look much like those of New York City. Soon the houses are farther apart, the lawns are larger, and as we pass out of the city and approach the open country we see many beautiful homes with large, well-kept grounds.

THE MOST TRAVELED ROAD IN THE WORLD

The Lincoln highway passes through Trenton, and, crossing the Delaware river on a great bridge, continues near the river to Philadelphia. This part of the highway is the most traveled road in the world. Thousands of automobiles pass over it each day. Many cities and towns lie along the way.

PHILADELPHIA

On reaching Philadelphia we have traveled nearly a hundred miles. We decide to stop here for the night. Our rooms are in a large, comfortable hotel, many stories high. Before dark, let us walk down to the docks to see the ocean steamers which come up the Delaware river to Philadelphia. On the way we notice immense manufacturing plants, for Philadelphia ranks third among the manufacturing cities of the United States. Among her most important industries are the manufacture of all kinds of knit goods and the making of woolen carpets, in which she leads the world. The largest locomotive factory in the world is also located here. At the docks we see these and many other products being loaded on steamers which will carry them to distant places.

PHILADELPHIA TO PITTSBURGH

THE ATLANTIC COASTAL PLAIN

On the way from New York to Philadelphia we traveled over the Atlantic Coastal plain. This belt of flat, sandy soil with few hills reaches north and south along the Atlantic coast of our country. In this section are numerous villages and towns, with fertile farm lands between them.

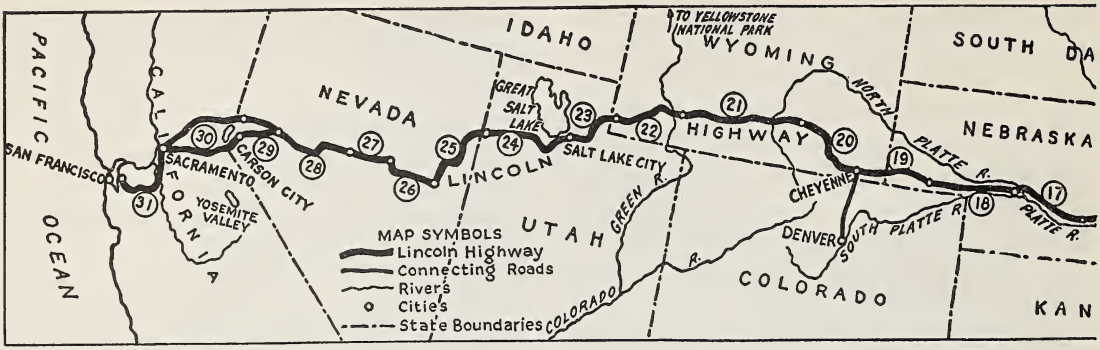
THE APPALACHIAN HIGHLANDS

Leaving Philadelphia, we find ourselves in rolling country, and soon enter the Appalachian highlands which stretch northeast and southwest just west of the Coastal plain. Here are steep hills and mountains, and deep valleys. From the top of a ridge we can look ahead over the road as it drops down into the valley, crosses a river, and winds up a hill on the other side.

PITTSBURGH—"THE WORKSHOP OF THE WORLD"

Soon we are on the western slope of the Appalachian highlands, and in a few hours we reach Pittsburgh, 300 miles from Philadelphia and nearly 400 miles from New York City. The country around us is higher than the Atlantic Coastal plain, but not so high as the Appalachian highlands we have just crossed.

Pittsburgh is in the heart of a famous coal region. From the city coal is shipped to all parts of the world. Oil, too, is found near the city, and is one of her chief exports. Here we find mammoth iron and steel mills and foundries. Pittsburgh is well named "the workshop of the world."



The famous Lincoln highway stretches across our land from the Atlantic to the Pacific ocean. See how it twists and turns in order to pass through great cities and many towns, to find good crossing points over rivers, and the easiest way over high mountains.

PITTSBURGH TO CHICAGO

THE CENTRAL PLAINS

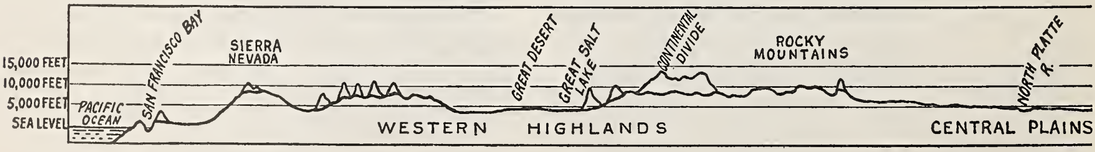
Two large rivers meet at Pittsburgh and form the Ohio river, which finally flows into the Mississippi. On leaving the city, our road runs west through a hilly region for about forty miles. It then crosses the Ohio river and continues west into another belt of land, known as the Central plains. Like the other land belts through which we have traveled, these plains reach far north and south across our country. The land is, for the most part, level.

For over a thousand miles the road will lead us through some of the richest farm land in our country. Fine crops of corn, wheat, oats, and hay are grown here. We pass through many small cities and villages, where the farmers sell their farm products and buy what they need for their farms and their homes. The villages are prosperous and the farmers live in comfortable houses.

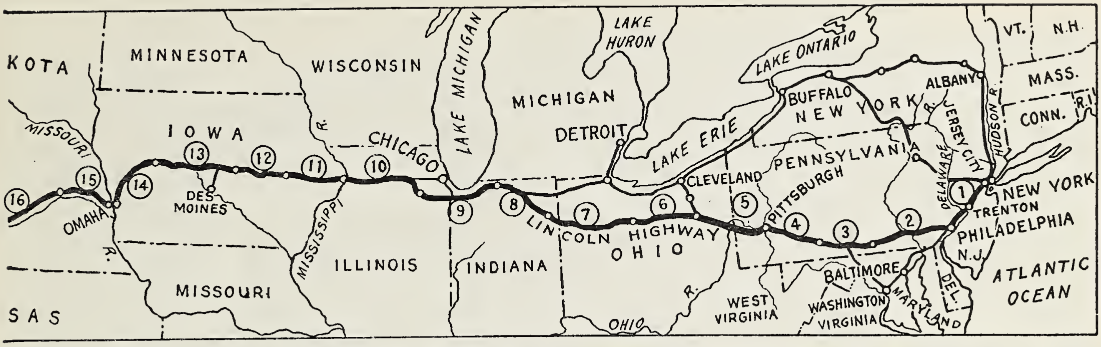
It is well along in the afternoon, and we must look for a place to spend the night. A sign "Tourists" in front of a farmhouse attracts our attention. The farm buildings are well-kept, and the house looks especially inviting after our long drive. We stop. The farmer's wife cooks a delicious dinner for us. Most of the food comes from the farm. We go to sleep well content. In the morning, after a tasty breakfast, we are on our way again.

CHICAGO

The Lincoln highway passes 20 miles south of Chicago. We want to visit this second largest city in our country, so we leave the highway and drive northward over another road. We are now in Chicago—nearly 900 miles from New York City. We visit the stock yards, where cattle, hogs, and sheep, brought from the west, are killed. Their meat is shipped all over the country. Along the Chicago river



There are many ups and downs along a great highway. This elevation map shows how the Lincoln highway crosses the plains, climbs over mountains, and drops again to the plains. See how the highway goes over the tops of low mountains but finds its way through the low points of the high ranges.



Our country has many great highways like the Lincoln highway, which make it easy to travel from place to place or to carry goods by truck from one part of the country to another. The numbers along the highway on this map represent the thirty-one sections of about 100 miles each into which the Lincoln highway is divided.

we see great grain elevators, where grain from the Central plains is stored until it is reshipped where needed. Chicago is the world's greatest grain center. Other important industries of this great city are iron and steel manufacturing, the shipping of lumber, and the manufacture of furniture. What is more, Chicago is the greatest railroad center in the country.

CHICAGO TO OMAHA

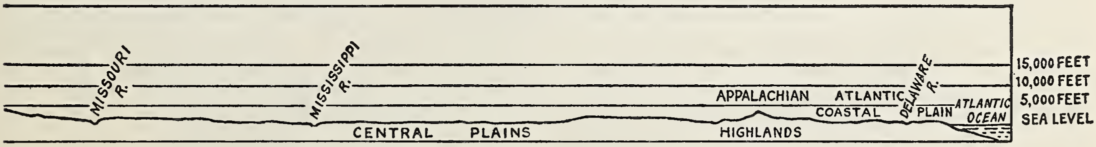
Leaving Chicago the next morning, we take a road west which again brings us to the Lincoln highway. Our journey still leads through the Central plains with their fertile farms and great fields of corn, wheat, and oats. We drive more slowly. We notice many fine cattle, horses, and hogs. The villages are busy places and the farms between are well-kept. That night we stop again at a farmhouse.

OUR GREATEST RIVER—THE MISSISSIPPI

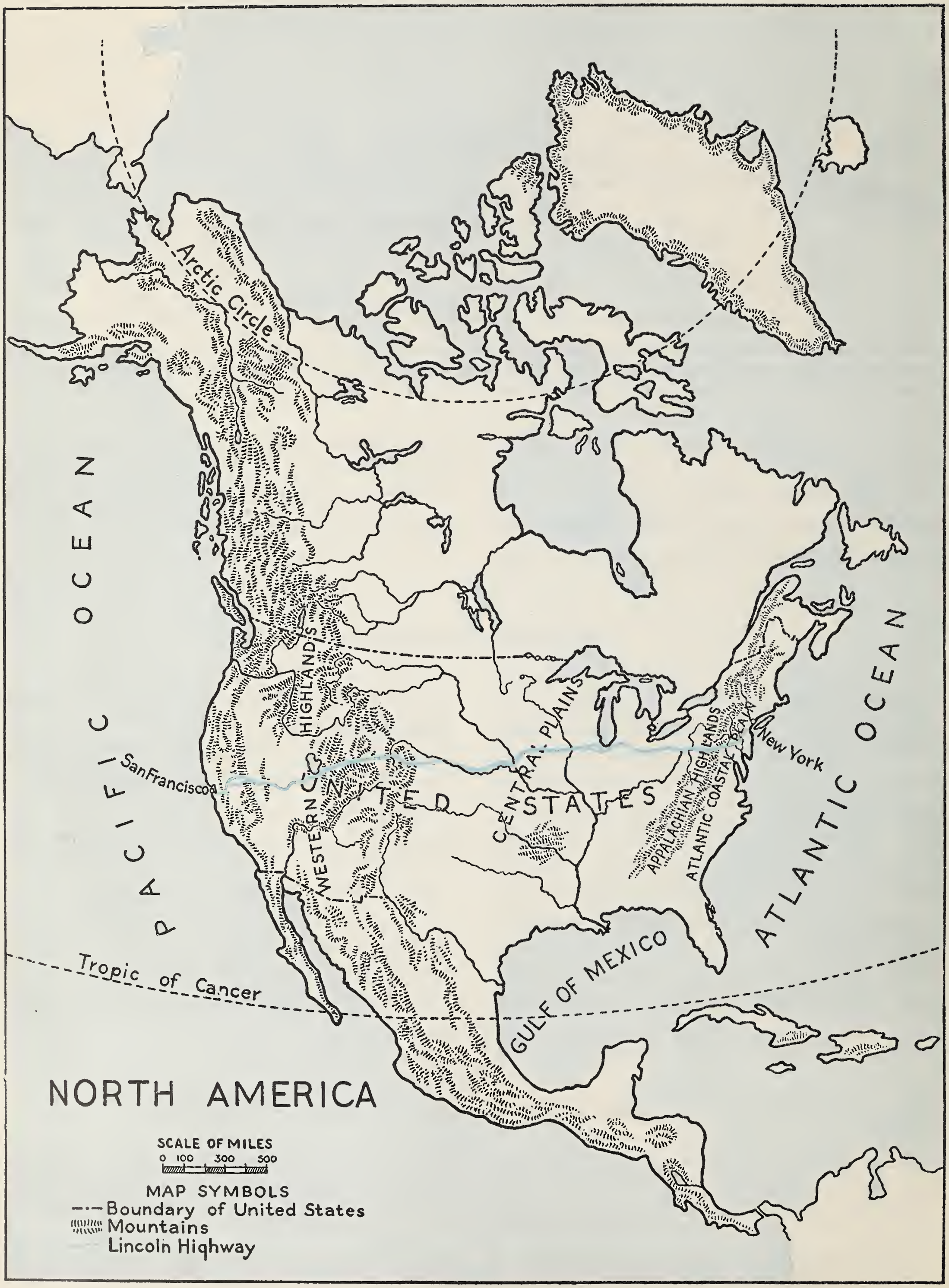
The next day we come to our greatest river, the Mississippi. Here a long bridge spans the stream. The Mississippi runs through the central part of our country almost the entire distance from north to south, and is so wide that only a few bridges have been built across it. It is one of the largest rivers in the world.

OMAHA

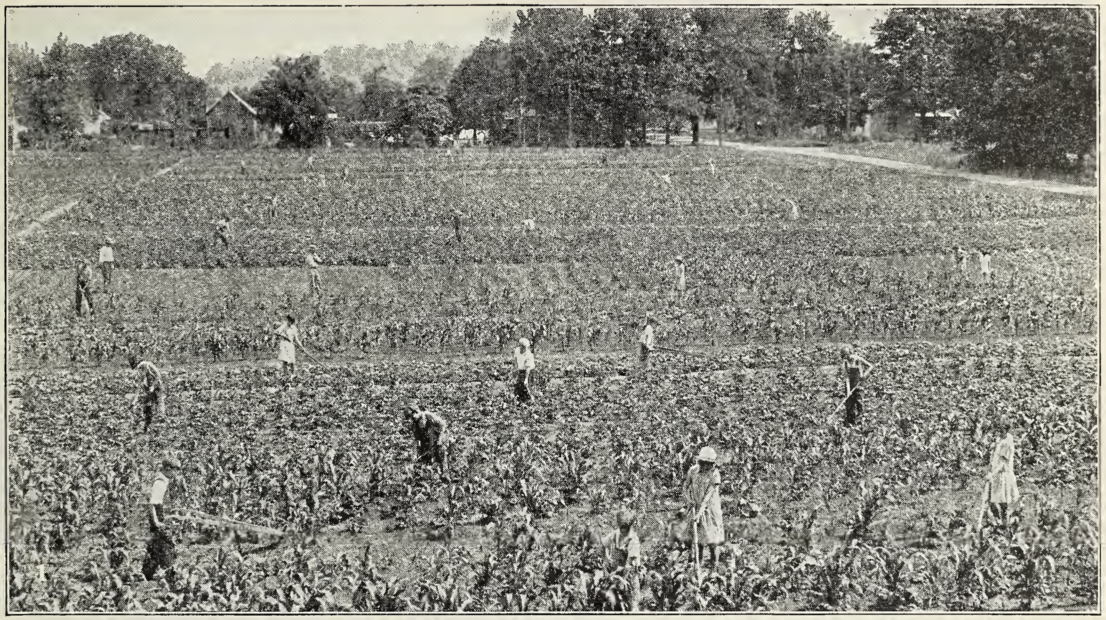
The third day out of Chicago, we cross the Missouri river over another bridge and enter the city of Omaha. We are now 1400 miles from New York and nearly halfway across the continent.

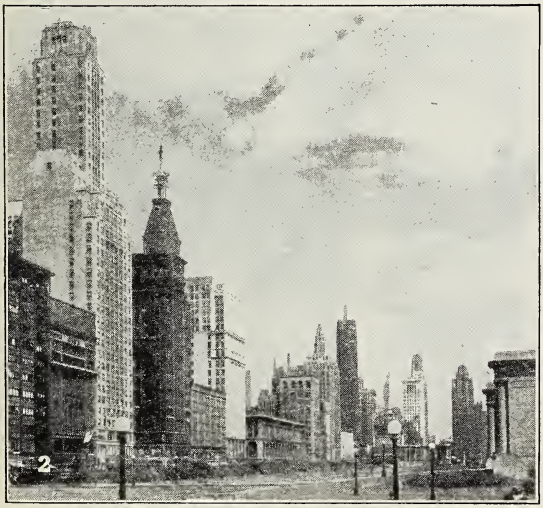


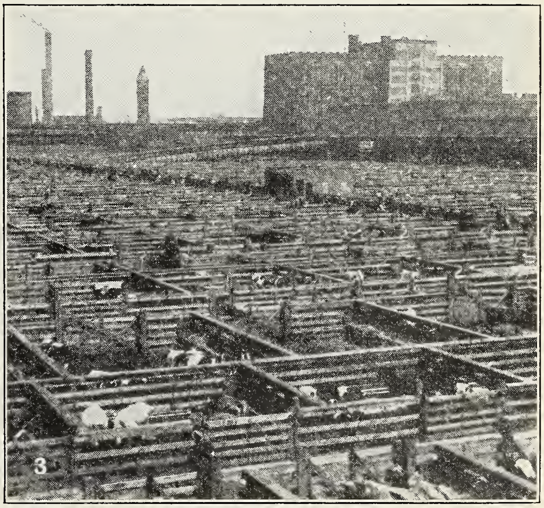
By following the scale lines across the map, you can tell how high above the sea the highway is at any point, and the height of the mountain peaks near which it passes. Notice how much higher the Western highlands are than the Appalachian highlands. See if you can tell the height of the Continental Divide.


NORTH AMERICA
SCALE OF MILES
0 100 300 500
MAP SYMBOLS
Boundary of United States
Mountains
Lincoln Highway
PACIFIC OCEAN
ATLANTIC OCEAN
GULF OF MEXICO
Arctic Circle
Tropic of Cancer
UNITED STATES
WESTERN HIGHLANDS
CENTRAL PLAINS
APPALACHIAN HIGHLANDS
ATLANTIC COASTAL PLAIN
San Francisco
New York

IN THE CENTRAL PLAINS







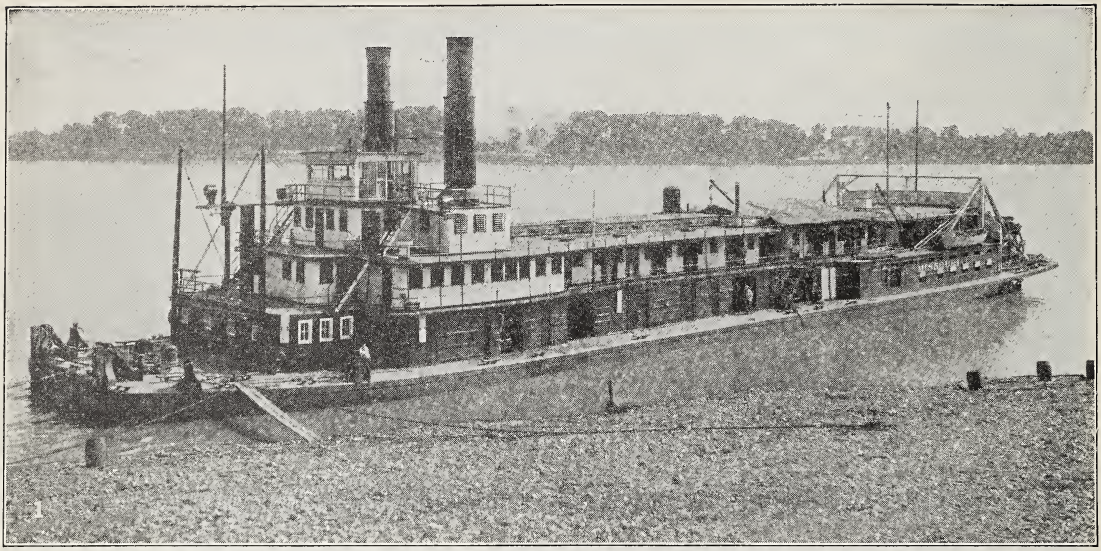
(1) J. C. Allen, West Lafayette, Ind. (2) The Chicago Association of Commerce. (3) Publishers' Photo Service, N. Y.

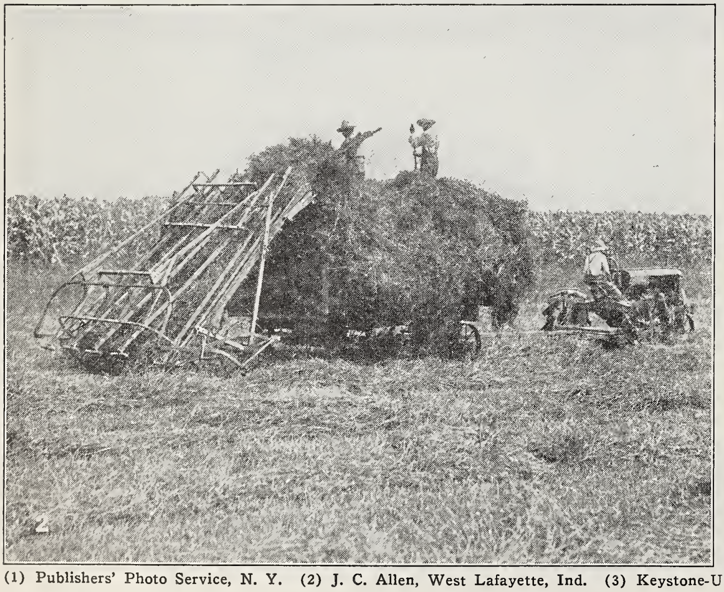
1. Members of a 4-H club in the Central plains working in their garden plots. The 4-H clubs are made up of school boys and girls of the United States who want to learn how to care for the soil, how to grow good crops, and how to raise fine pigs, lambs, and cattle. The boys and girls are allowed to sell their crops and the animals they raise. These children are so busy that they do not even look up as our automobile passes them.

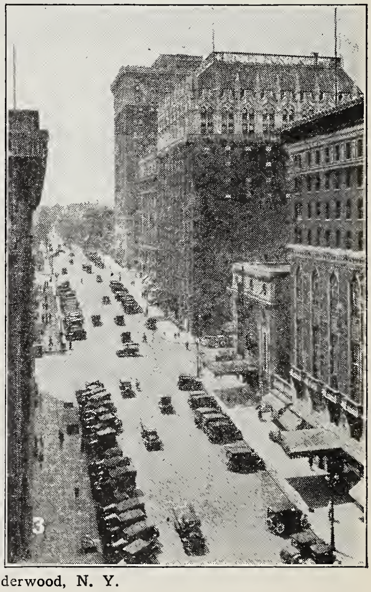
2. Some of Chicago's skyscrapers. We have to leave the Lincoln highway to reach Chicago, but we must visit this second largest city in our country. Chicago is on Lake Michigan, and the buildings in this picture face the lake. One reason why Chicago is a large city is that it is both a lake port and a railroad center. More railroad trains come to Chicago than to any other city in our country.

3. The stockyards in Chicago. Before leaving the city, we want to see the stockyards. Hundreds of freight cars come here every day loaded with live cattle, hogs, and sheep. The animals are kept in these pens until they are sold either to meat packers or to farmers. The meat packers buy fat animals and sell us their meat. The farmers buy lean animals and feed them corn until they are fat. Then the animals are sold for more than they cost. Chicago has several great meat-packing houses which supply a large part of the meat used in our country.

IN THE CENTRAL PLAINS







(1) Publishers' Photo Service, N. Y. (2) J. C. Allen, West Lafayette, Ind. (3) Keystone-Underwood, N. Y.

1. A passenger steamer on the Mississippi river. After driving for many miles through the rich farm land of the Central plains, we cross the Mississippi river. Tied up along its banks we see a number of steamers like this one. They are wide and flat-bottomed, so that they float almost on top of the water. Boats which extend far down in the water cannot be used on the Mississippi because the river is so shallow in many parts that they would run aground. The steamers on the Mississippi carry a great deal of freight.

2. Loading hay in the Central plains. The hay wagon and the loader are being drawn by a gasoline tractor. The tractor has an engine somewhat like the one in our automobile. As the loader is drawn along it rakes up the hay and carries it up onto the wagon. A great deal of hay is grown in the Central plains. Fields are planted with grass or clover which, when dry, becomes hay. Hay is eaten by horses, cows, and sheep. The largest crop of the Central plains, however, is corn. You can see a great field of it just beyond the hay wagon. Most of the corn is used to fatten pigs and cattle.

3. A broad avenue in Omaha, Nebraska. When we reach Omaha we are nearly half-way across the continent. New York City is 1400 miles behind us. Omaha is a railroad and trade center. Farmers from miles around bring their cattle and hogs to the stockyards of Omaha and buy in the city farm machinery and other supplies which they need.

OMAHA TO SALT LAKE CITY

For two days after leaving Omaha we travel westward up the valley of the Platte river. On both sides stretch fields of wheat. Then, so gradually that we scarcely notice it, the plain slopes upward toward the west. Some portions of this plain are higher than the highest mountain range that we crossed in the Appalachian highlands.

As we continue on this rising slope, we see that the soil is not so good for raising grain. We see fewer farms, and more pasture lands, on which cattle or sheep graze. Towns are much farther apart, and are usually smaller than those farther east. We camp out at night because we find ourselves far from any town at nightfall.

THE ROCKY MOUNTAINS

Passing through Cheyenne, we next enter the Rocky Mountain region, or the beginning of the Western highlands. Here they have little rain. The grass is not thick. It stands in clumps, with bare ground between. As we mount higher, the air becomes cooler. The nights are cold.

THE CONTINENTAL DIVIDE

We soon reach the Continental Divide, and stop to look at the scenery. Here we are a mile and a half above sea level. The highest mountains around us are capped with snow. The Continental Divide gets its name from the fact that the streams on the eastern side of the divide go on a long journey to the Gulf of Mexico, and the streams on the western side flow into the Pacific ocean.

Before we get to Salt Lake City we take a trip north to Yellowstone National Park. This is one of the most beautiful places in the United States. It has been set aside as a park by the United States government, for the enjoyment of all who care to visit it.

THE YELLOWSTONE NATIONAL PARK

At Yellowstone Park we see many wonderful things. There are hundreds of springs whose waters are so hot that they constantly bubble and boil. There are other springs from which boiling water and steam shoot up with a roar, sometimes more than 100 feet in the air. What a beautiful sight! These springs are known as geysers. The Yellowstone river runs through the park. It has cut a deep canyon through the solid rock, whose walls are beautifully colored, due to minerals in the rock. In places this canyon is a quarter of a mile deep.

Hunting in the park is forbidden, and we see buffaloes, elk, and bears which are quite tame. We are sorry to leave this wonderland.

We return to the Lincoln highway, and at last come to Salt Lake City, where we will stay for the night. It has taken us five days to come from Omaha. We are now more than 2400 miles from New York City.

SALT LAKE CITY TO SAN FRANCISCO

SALT LAKE CITY

Salt Lake City gets its name from Great Salt lake, nearby. The water of this lake is very salty. We drive westward along the lake, into the open country. Hemmed in by mountains, this section has very little rain. Most of the fields are moistened by water which is brought from mountain streams by means of ditches. This is called irrigation.

DESERT LANDS

Soon we leave these irrigated districts and go for 600 miles across a desert. Very few people live here. We pass but few towns, all of them small mining towns. It is so hot during the middle of the day that it is uncomfortable to drive. So we sleep during the day, and drive at night, when it is cool. Like the other land belts we passed through,—the Coastal plain, the Appalachian highlands, and the wide Central plains,—this desert area stretches away to the north and the south for hundreds of miles.

THE WESTERN HIGHLANDS

We are now approaching a group of the highest mountains we have seen since leaving the Continental Divide. The winding mountain road leads us up until we are more than 7000 feet above sea level. We are grateful for the cool mountain air after the three-day ride over the desert. We find snowbanks in shady hollows and enjoy a snowball battle.

These mountains are so high that they keep most of the moisture-carrying clouds which come from the Pacific ocean from passing over them. That is why little moisture can reach the desert lands over which we have just passed. But as we start down the western side of the mountains, we can see that much rain falls here. Dense forests and shrubs cover the slopes.

SAN FRANCISCO

The last lap of our journey leads us through fertile valleys, where there are large, prosperous cities, beautiful gardens, vineyards, orange and lemon groves, and truck farms. Finally, from the top of a hill we see ahead the shining waters of San Francisco bay. On its farther shore is San Francisco, the end of our journey. Beyond the Golden Gate, the entrance to the bay, we see the waters of the Pacific ocean. The longest bridge in the world leads us across the bay and into the city. We have come over 800 miles from Salt Lake City and are more than 3100 miles from New York.

Just as New York is the leading seaport on the Atlantic, so San Francisco is a leading seaport on the Pacific. Her harbor is one of the finest in the world. From here, ships sail loaded with wheat, canned goods, dried fruits, leather, machinery, and iron goods, bound for South America and the countries across the Pacific. The canning and preserving of fruits and vegetables is a leading industry of this city. She also has one of the greatest shipbuilding plants in the United States, where some of our great battleships have been built.

After our long journey we are glad to rest for a few days. We bathe in the Pacific ocean and watch the great ships steam out to sea. The fresh fruits for which this warm, moist country is famous, we enjoy at every meal. We sleep well during the cool nights, and before long we will be ready to make the trip back to New York.

I SHOULD REMEMBER

1. Our country has highlands and lowlands, a great desert and moist, fertile areas, hot regions and cold regions.

2. Great roads, such as the Lincoln highway, cross our country, with many other roads leading in every direction from them. This network of roads helps trade and travel between all parts of the country.

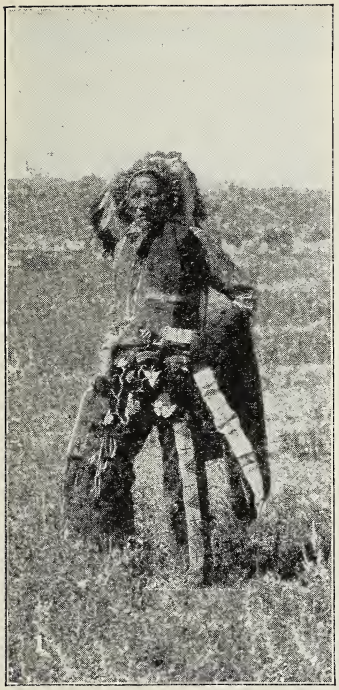
3. It is over 3100 miles from the eastern coast to the western coast of our country.

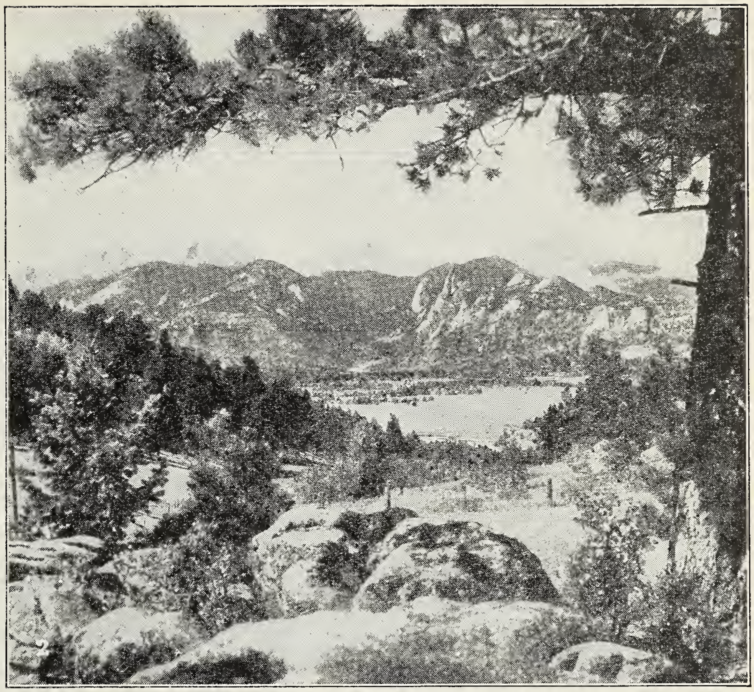
4. The Atlantic Coastal plain is a region of nearly flat land extending north and south along the Atlantic coast of the United States.

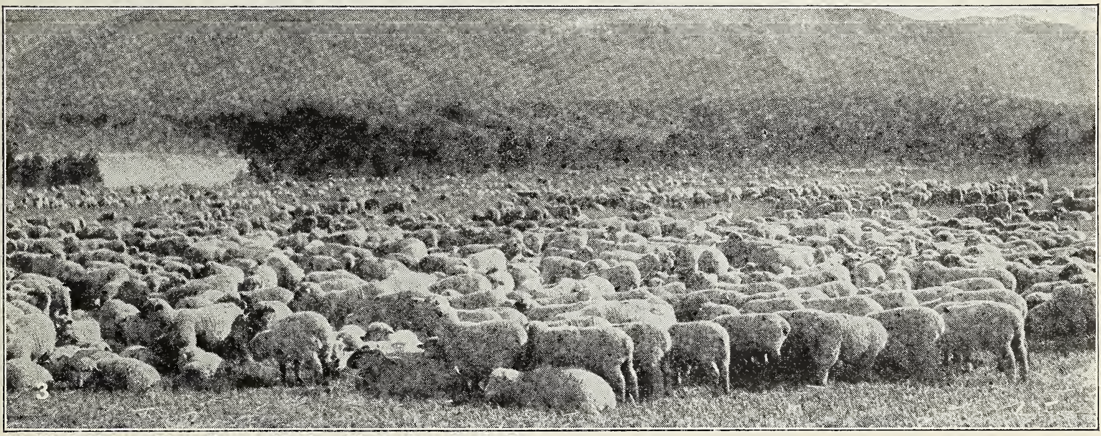
5 West of the Atlantic Coastal plain are the Appalachian highlands, a hilly and mountainous region.

6. The wide Central plains are flat, fertile

IN THE WESTERN PLAINS AND THE ROCKY MOUNTAINS







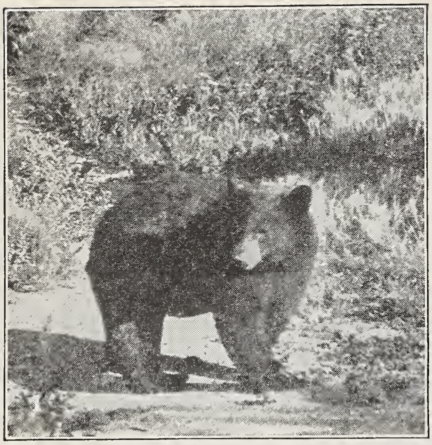
(1) (2) Publishers' Photo Service, N. Y. (3) Northern Pacific Ry.

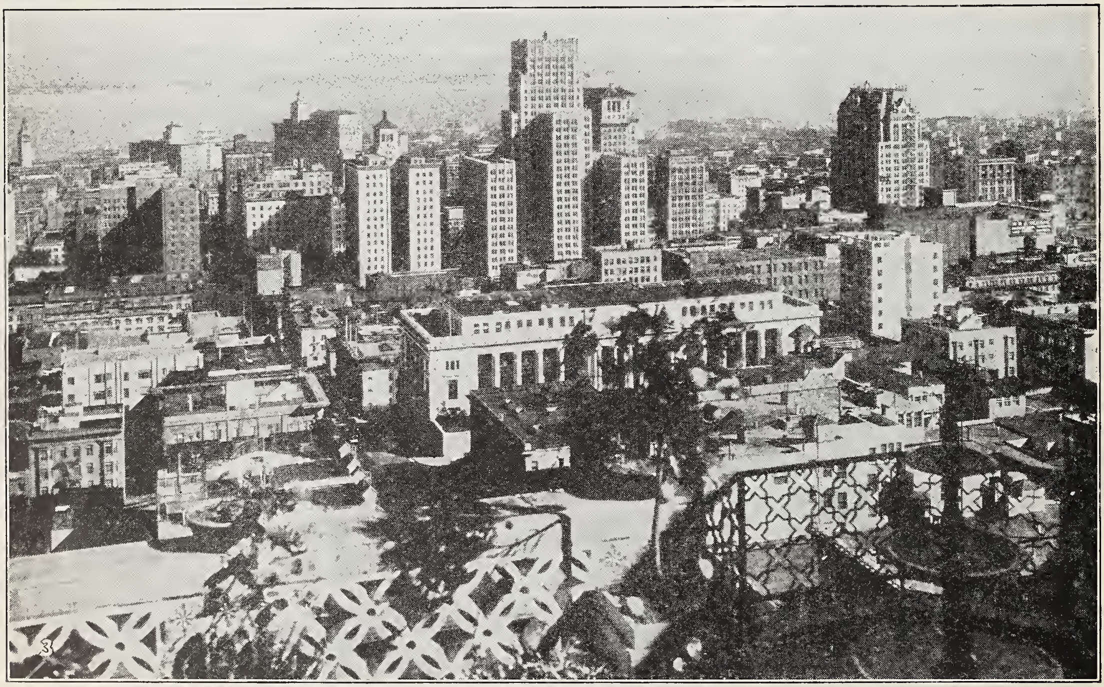
1. An old Indian warrior who lives in the high western plains of our country. The Indians have been at peace with the white men for many years. But this aged red man can remember many fierce battles in the years when the Indians still hoped to drive the white men from their lands. Indian tribes had lived and hunted in our country long before white settlers came, and they felt that they owned the land. This fine old Indian wears a headdress of feathers and his clothes are trimmed with beads of different colors arranged in fancy patterns.

2. In the Rocky mountains. The Rockies are well named. They are not rounded mountains with smooth sides, like most of the Appalachian mountains. They are rough and rugged, with many steep cliffs and sharp peaks. Here among the Rocky mountains we are in the eastern part of the great Western highlands which stretch north and south the entire length of North America. The Western highlands are much higher than the Appalachian highlands.

3. Sheep grazing in a valley in the Western highlands. In the high plains east of the Rockies we saw many flocks of sheep and large herds of cattle. Even in the Rocky mountains we see sheep feeding on grass in some of the river valleys and on the lower mountain slopes. Sheep give us wool and meat. Many sheep are raised in dry lands and in mountain regions because they can live on the scanty food which grows there.

THE WESTERN HIGHLANDS AND A GREAT SEAPORT





(2) Brown Brothers, N. Y. (3) Publishers' Photo Service, N. Y.

1. A friendly bear in Yellowstone National park. We take a side trip from the Lincoln highway to this park. Here we see wonderful waterfalls, beautifully colored rocks, and many springs of hot bubbling water. The Yellowstone park is called a National park because it has been set aside by our government for the pleasure of the people of our country. This friendly bear is one of the many animals which live in the park. He is quite tame because he has not learned to be afraid of man. The government protects the animals in the park by forbidding anyone to hunt there.

2. Driving through the desert. For several hundred miles in the Western highlands we drive through a dry region where there is little life. The winds do not bring much rain to this region. A few bushes and some grass grow here and there, but most of the country is bare. It is hot in the desert, and we are glad when at last we leave it.

3. San Francisco, California, the end of our long tour. We have traveled over 3100 miles since leaving New York. San Francisco is a large and busy city on a fine bay. It is one of our most important seaports. From its wharves many kinds of goods are shipped to many parts of the world. We find San Francisco a delightful city. The climate is mild and pleasant the whole year round. In this picture, we are looking westward across the business section of the city toward San Francisco bay. Farther west, beyond the neck of land, lies the Pacific ocean.

lands in the central part of the United States.

7. In the western part of our country are the Western highlands, high ranges of mountains stretching north and south between the Central plains and the Pacific coast.
8. Between two ranges of mountains in the Western highlands lies a desert region, where little rain falls.
9. Along the Lincoln highway the greatest population is found in the cities of New York, Philadelphia, Pittsburgh, Chicago, and San Francisco. All of these cities are large manufacturing centers and are located on the seacoast or on rivers or lakes which enable them to carry on trade by water.
10. In the farming sections the population is more scattered as fewer people are needed to carry on the work of the farms.

SOME THINGS TO TALK ABOUT

1. New York City.
2. Great rivers and how they are crossed.
3. The farming districts of the Middle West.
4. The great belts of land crossed by the Lincoln highway.
5. Large cities along the Lincoln highway.
6. Highlands and lowlands.
7. Industries along the Lincoln highway.
8. The Yellowstone National Park.

EXERCISE

1. Of what value are roads like the Lincoln highway?
2. What is the first river you cross between New York and Philadelphia?
3. What do you see that show you that New York City is a great seaport?
4. Between what two cities is the most traveled road in the world?
5. How and where does the Lincoln highway cross the Delaware river?
6. Where, on your trip, do you first begin to see rich farmlands? What name is given to this whole belt of land?
7. Describe the Atlantic Coastal plain.
8. Where are the Appalachian highlands? Describe them.
9. How far is Pittsburgh from New York?
10. What is Pittsburgh called? Name some of her chief industries.
11. What great belt of land do you enter after leaving Pittsburgh?
12. What is the most important occupation of the people of the Central plains? Is this region thickly settled?
13. Name some of the crops which are grown on the Central plains.
14. What great city do you next visit after leaving Pittsburgh? Tell what you saw there.
15. What great city is nearest the halfway point of the Lincoln highway? How far is this city from New York?
16. In reaching Omaha from Chicago, what two great rivers do you cross? How does the Lincoln highway cross these rivers?
17. Describe the land between Omaha and Cheyenne. Are the crops in this section richer or poorer than those nearer the Mississippi? Why?

18. What large region lies west of the Central plains?
19. Tell how the Continental Divide gets its name.
20. Mention several of the wonders of Yellowstone National Park.
21. How far is Salt Lake City from Omaha? From New York?
22. From what did Salt Lake City get its name?
23. Describe the desert area in the Western highlands. How wide is it?
24. How does the temperature change in passing from the desert to the high mountains farther west?
25. What changes do you notice in climate and in plant life as you leave the Western highlands and come down to the Pacific coast?
26. What city is at the western end of the Lincoln highway? Tell what you have learned about this city.
27. In what regions did you find the greatest population?
28. What part of the country through which you traveled do you like best?

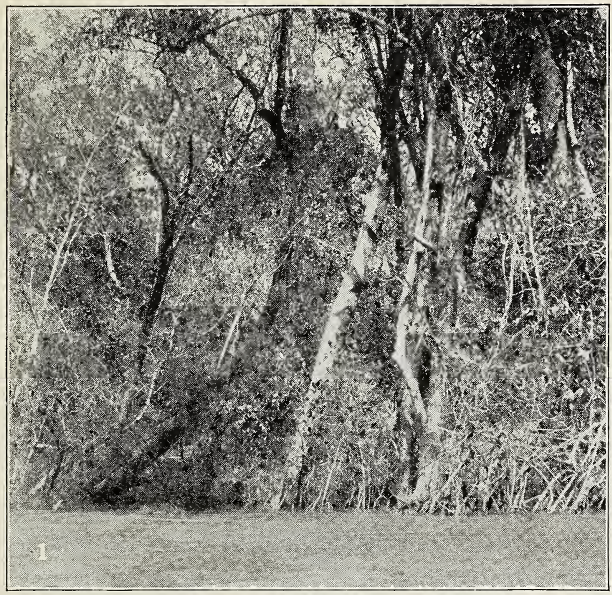
CLASS PROJECT

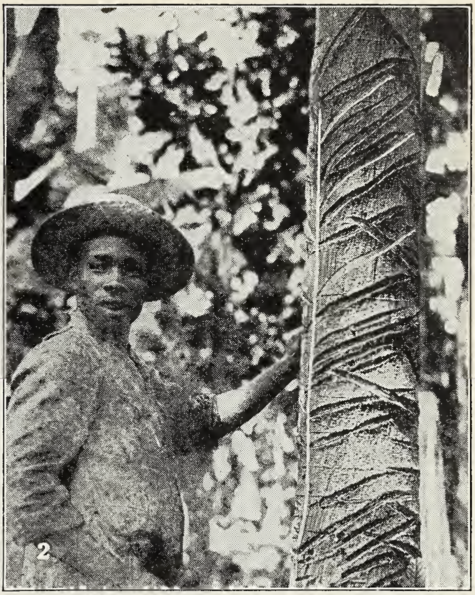
Divide the class into four groups. Let each group choose one of the land belts crossed by the Lincoln highway and gather all the information possible regarding it, using the topics given below. Select one member from each group to tell the class what the group has learned. Then have the class discuss the differences between the belts.

LAND BELTS OF THE UNITED STATES

1. Location
2. Climate
3. Surface features
4. Plant life
5. Means of travel
6. Occupations
7. Products

THE AMAZON BASIN AND ITS CHIEF PRODUCT





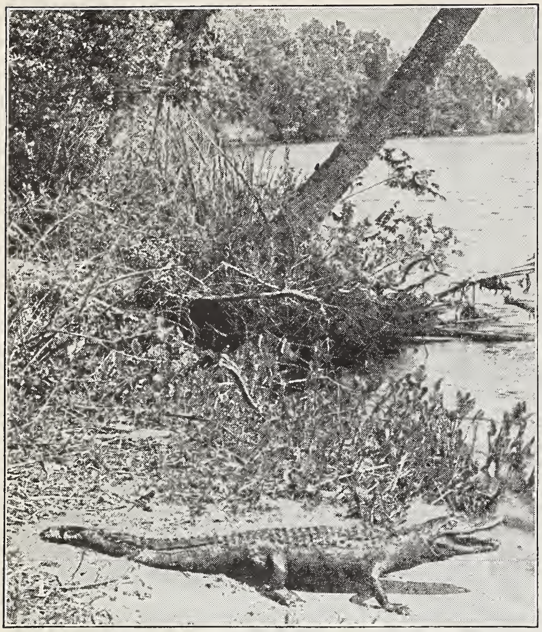
(1) (3) A. H. Fisher, from Ewing Galloway, N. Y. (2) Thos. F. Lee, from Ewing Galloway, N. Y.

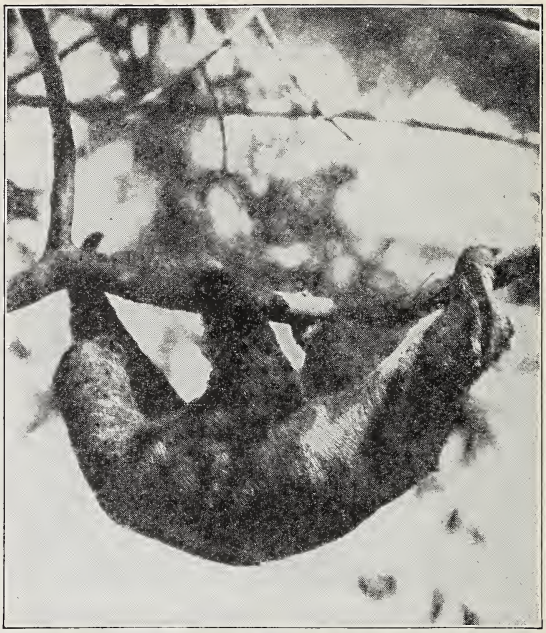
1. Jungle growth along the Amazon river. The river flows slowly along through a wild tangle of trees, shrubs, and vines. Heavy rainfall and hot weather make plants grow rapidly in this region. See how twisted and bent some of the trees are. They grow so close together that vines reach from one to another. There are beautiful flowers in these forests and gaily colored birds and strange animals.

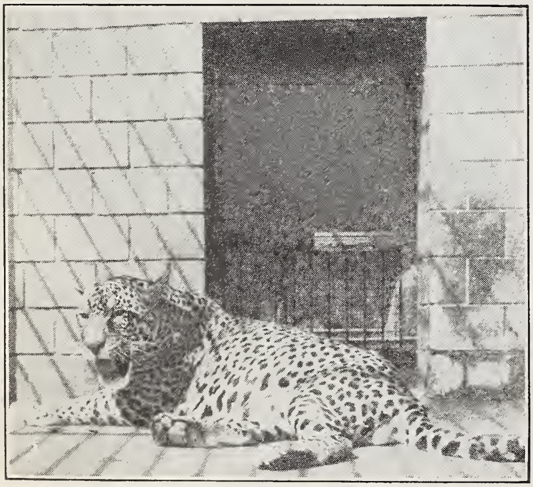
2. Rubber tapping. There are many rubber trees in the Amazon jungle. This picture shows the trunk of one of them. The native has been cutting gashes in the bark with his sharp knife. He is careful to cut only through the bark and not into the wood, as that would injure the tree. The milky juice of the tree flows through the slanting gashes and follows down the long straight one. At the bottom of the long gash the native has placed a pail to catch the juice. When the juice has been collected it will be made into rubber. How many things do you know that are made of rubber?

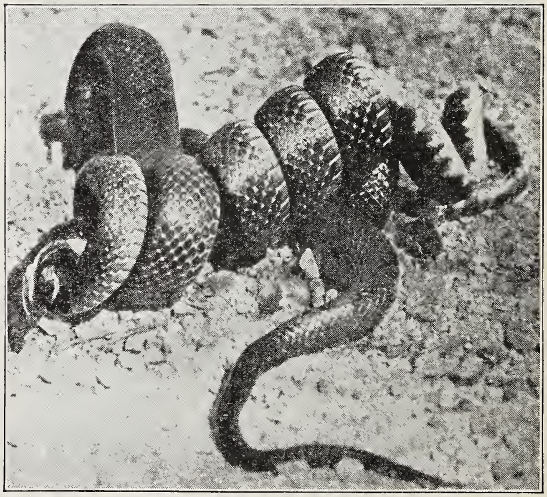
3. Near the mouth of the Amazon. Here the river is almost at the end of its three-thousand mile journey from the Andes mountains to the Atlantic. Just before it reaches the ocean, it divides and flows through several channels to the sea. The river carries so much mud into the sea that for more than 100 miles from shore the ocean water is muddy.

SOME ANIMALS OF THE AMAZON BASIN









(1) Keystone-Underwood, N. Y. (2) A. H. Fisher, from Ewing Galloway, N. Y. (3) J.V.D.S. Photo. (4) Copyright E. M. Newman from Publishers' Photo Service, N. Y.

1. An alligator. Alligators live along the muddy banks of the Amazon river. They grow from twelve to twenty feet long, and their skin or hide is very tough. Their jaws are enormous, with large sharp teeth. Alligators have great strength. Lying beneath the water near shore, they seize animals which come to the river to drink, drag them out into the water, and eat them.

2. A sloth. The sloth is a slow, lazy animal. He spends his life upside down, clinging with his long curved claws to the limbs of trees. The sloth is helpless on the ground, for his legs are not fitted for walking. His hair is the color of the trees he clings to, a greenish brown or gray, so that it is hard to see him. Luckily for him, his food is right at hand, for he lives on leaves and fruits.

3. A jaguar. This animal looks like a great cat, but he is very strong and dangerous. His fur is yellow with black spots. Once this jaguar prowled silently through the Amazon jungles at night, looking for some animal which he could kill for food. He might even have attacked the natives. But finally he was captured. Now he is kept in a cage in a zoo, where he is harmless. Many people visit the zoo to see what he looks like.

4. Snakes. Some of the snakes of the Amazon basin are very large and powerful. Here we see a battle between two of them. The great black snake has coiled itself around the other one and is slowly crushing it to death. There are many snakes in the Amazon jungles, some of them very poisonous.

THE AMAZON BASIN

A WET, HOT REGION

THE LARGEST RIVER IN THE WORLD—THE AMAZON

Let us set sail from New York in a southeasterly direction over the broad Atlantic ocean. In a little over a week we reach the mouth of a great river on the coast of another continent. The river is the Amazon, the largest river in the world. The continent is South America. This story is about that part of South America through which the mighty Amazon flows.

The Amazon river rises in the Andes mountains not more than 100 miles from South America's western coast. But the river does not flow west into the Pacific ocean. Instead, it flows east, and finally empties into the Atlantic ocean over 3000 miles from its source.

Hundreds of streams flow into the Amazon from north, south, and west. They are called tributaries of the Amazon because their waters feed it. One of these tributaries is more than 2000 miles long. Sixteen others are each over 1000 miles in length. The water from these many streams makes the Amazon a mighty river. At its mouth, the Amazon is 50 miles wide and looks like a great bay. So much muddy water flows from its mouth that it colors the ocean for many miles out to sea.

THE AMAZON BASIN

The Amazon river drains the central part of South America, or about one-third of the whole continent. This region is called the Amazon basin, the greater part of which is a low, level plain. So gentle is the slope of this plain toward the ocean, that the river flows very slowly. The slight current and the great depth of the water make it possible for ocean steamships to sail up the river for 1000 miles. Smaller steamers are able to go 1500 miles farther.

A REGION OF HEAVY RAINS

In some parts of the Amazon basin there is a rainfall of 200 inches a year. This is five times as much rain as falls in New York state. During the rainy season, scarcely a day passes without heavy showers. As a result, the river floods the country for many miles from each bank.

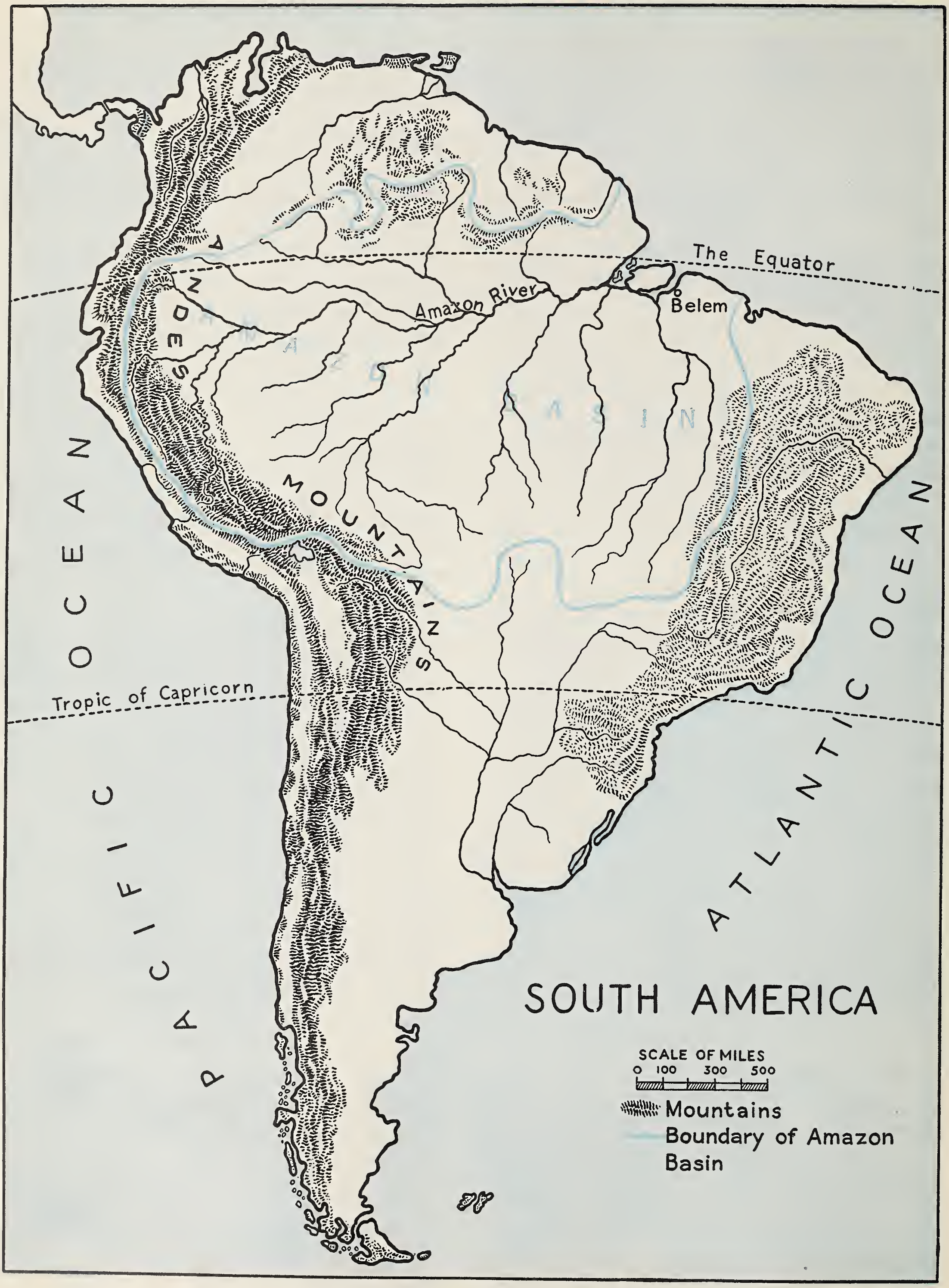
THE AMAZON AND THE EQUATOR

The Amazon river lies just south of the Equator. The Equator is the center of the great Hot belt extending around the world. All the year round the sun at noon is directly over some part of this belt. That is why this belt is the hottest part of the earth. The northern boundary of the Hot belt is the Tropic of Cancer, an imaginary line about 1620 miles north of the Equator. The southern boundary is the Tropic of Capricorn, an imaginary line the same distance south of the Equator.

DENSE JUNGLE GROWTH

In the Amazon basin the air is moist and the days are hotter than our hottest summer weather. Plants grow so rapidly in this climate that there are thousands of square miles of unbroken forests, or jungles, stretching away from each bank of the river. Great trees shoot up to a height of two hundred feet. They grow so close together that their branches cross and shut out the sunlight from the ground below. Creepers and vines join tree to tree.

The undergrowth is so dense that one has to cut a path to get through. When such paths are cut through the forest, they are overgrown again within a few weeks. For


The Equator
Amazon River
Belem
ANDES
MOUNTAINS
AMAZON BASIN
PACIFIC OCEAN
ATLANTIC OCEAN
Tropic of Capricorn
SOUTH AMERICA
SCALE OF MILES
0 100 300 500
Mountains
Boundary of Amazon Basin

this reason, and because of the floods, the natives do not build roads. Most of their traveling is done by boat. Often their boats are hollowed-out logs, called dugouts.

WILD LIFE OF THE JUNGLE

In the jungles around the Amazon are many kinds of animals. Monkeys climb about and chatter in the tree tops. Great cat-like jaguars and pumas prowl below, or crouch on the low limbs of trees ready to spring upon their prey. There are huge, scaly alligators along the river banks, and many poisonous snakes in the swamps. Some of the snakes are so large and powerful that they can crush a sheep in their coils. Brilliantly colored birds fly among the trees, and the air is filled with the buzzing of many insects.

HOW THE NATIVES HUNT

The natives hunt the dangerous animals of the forests with guns or bows and arrows. Sometimes they use a blowpipe. A blowpipe is a long tube, like a giant pea-shooter. A poisoned dart is put in the tube. Then the hunter blows into one end with all his might and drives the dart out at the other end. The blowpipe is a deadly weapon.

THE RUBBER INDUSTRY

Why do people stay in this region of jungles, wild animals, and terrible heat? It is largely because of the rubber trees. These trees grow wild in the forests, and yield a milky juice from which rubber is made. Rubber is the chief product of the Amazon basin. Natives go into the forest and cut gashes in the trunks of these rubber trees. Beneath the gashes they hang little cups, into which the juice runs. These cups are emptied into pails and the pails are carried to a fire. A paddle is dipped into the juice and then this juice is scraped from the paddle on to a pole which is kept turning in the smoke of the fire. This thickens the juice and makes it hard. More and more juice is added to the lump on the pole until a "rubber ham," as it is called, has been made. The hams are sent down the river to Belem, a city near the mouth of the Amazon. From Belem they are shipped to other countries. Belem is one of the chief rubber ports of the world.

WHITE PEOPLE IN THE AMAZON BASIN

People who are used to a cooler climate find it hard to keep well in the Amazon basin. The dampness and extreme heat cause fever and disease. Countless millions of poisonous mosquitoes and other biting and stinging insects add to the danger and discomfort. However, a few white men live in the rubber regions a part of the year to see that the rubber is properly gathered and prepared. The real work is done by natives.

Besides the white men who oversee the work of gathering rubber, there are the white traders. The traders go up and down the streams in small steam launches or gasoline motor boats and buy rubber from the natives. In return they give the natives such things as hatchets and knives, candy and canned goods, and even phonographs, of which the natives are very fond. When the flood season comes, the rubber gathering stops, and most of the white men go to Belem or other cities to get away from the dampness of the jungle.

THE NATIVES AND HOW THEY LIVE

The natives of the Amazon basin are Indians who have dark skin and straight black hair. Because of the heat, the natives wear almost no clothes. Their low huts are made by placing roofs of grass and palm leaves on poles driven into the ground. The roofs slope steeply so they will shed the rain. These huts seldom have walls. Those built near the rivers are raised on stilts so that the water will not reach them in times of flood. Sometimes the huts are even built out over the water.

The natives sit on grass mats and sleep in hammocks made of vines woven together.

Their common tools are hatchets and knives. Clay and wooden kettles are used as dishes. Food is cooked by heating stones in a fire and then dropping the stones into kettles holding food and water.

The jungle and the rivers supply the natives with food. When they want meat, they kill some animal, such as the peccary. The peccary is something like a pig and the natives like its meat. When they want fish, they throw branches of a certain bush into the shallow streams and beat the branches with sticks. The juice of the bush gets into the water and deadens the fish. The natives then gather them in. The fish are still good to eat, for the juice does not hurt the meat.

If a native wants fruit he has only to pick it, as many kinds grow wild in the jungle. The roots of a plant called cassava take the place of our potatoes and bread. Tapioca, from which we make puddings, comes from the cassava plant. Because the climate is always warm, food plants are plentiful throughout the year. The people do not have to store up food for cold weather. There is always plenty for tomorrow.

I SHOULD REMEMBER

1. On the continent of South America, near the Equator, is the Amazon river. The Amazon is the largest river in the world. It is over 3000 miles long.
2. Hundreds of streams flow into the Amazon. One of these streams is more than 2000 miles long and there are others over 1000 miles in length.
3. The Amazon drains the great central portion of South America, or about one-third of the entire continent. The part of South America drained by the Amazon and its tributaries is called the Amazon basin.
4. The land in the Amazon basin has a very gentle slope. The river flows so slowly and is so deep that small steamers can travel on it for 2500 miles.
5. The Amazon basin has a very heavy rainfall. During the rainy season the country is flooded for many miles back from the river.
6. The Amazon is just south of the Equator, in the Hot belt of the world. The sun at noon is always directly overhead in some part of this Hot belt. The air is always hot and damp. Plants grow very rapidly. There are thousands of square miles of dense forests, or jungles, in which are many wild animals, brilliantly colored birds, snakes, and insects.
7. Rubber is the chief product of the Amazon basin. The juice of the rubber tree is collected, and is hardened in the smoke of a fire into large lumps called "rubber hams." These hams are shipped down the river to Belem, from where they are sent to other countries.
8. The natives of the Amazon basin are mostly Indians. Few white men can live in this region because of the heat, dampness, and insects. The natives do most of the work of gathering rubber. White men oversee the work, or carry on trade with the Indians along the river.
9. Travel is mostly by boat, because of the floods and because any roads which might be cut are quickly overgrown. For boats, the natives use dugouts.
10. Few clothes are worn by the natives because of the heat. They live in small huts with roofs made from grasses or

leaves. Hatchets and knives are their common tools. Their dishes are clay or wooden kettles. They get their food by hunting, fishing, and gathering wild fruits. Because there is no winter in this land, plants grow throughout the year, so that the natives do not have to store up food for future use.

SOME THINGS TO TALK ABOUT

1. The Amazon basin.
2. Climate and plant growth in the Amazon basin.
3. Animal life in the jungle.
4. Rubber.
5. The natives of the Amazon basin.

EXERCISE

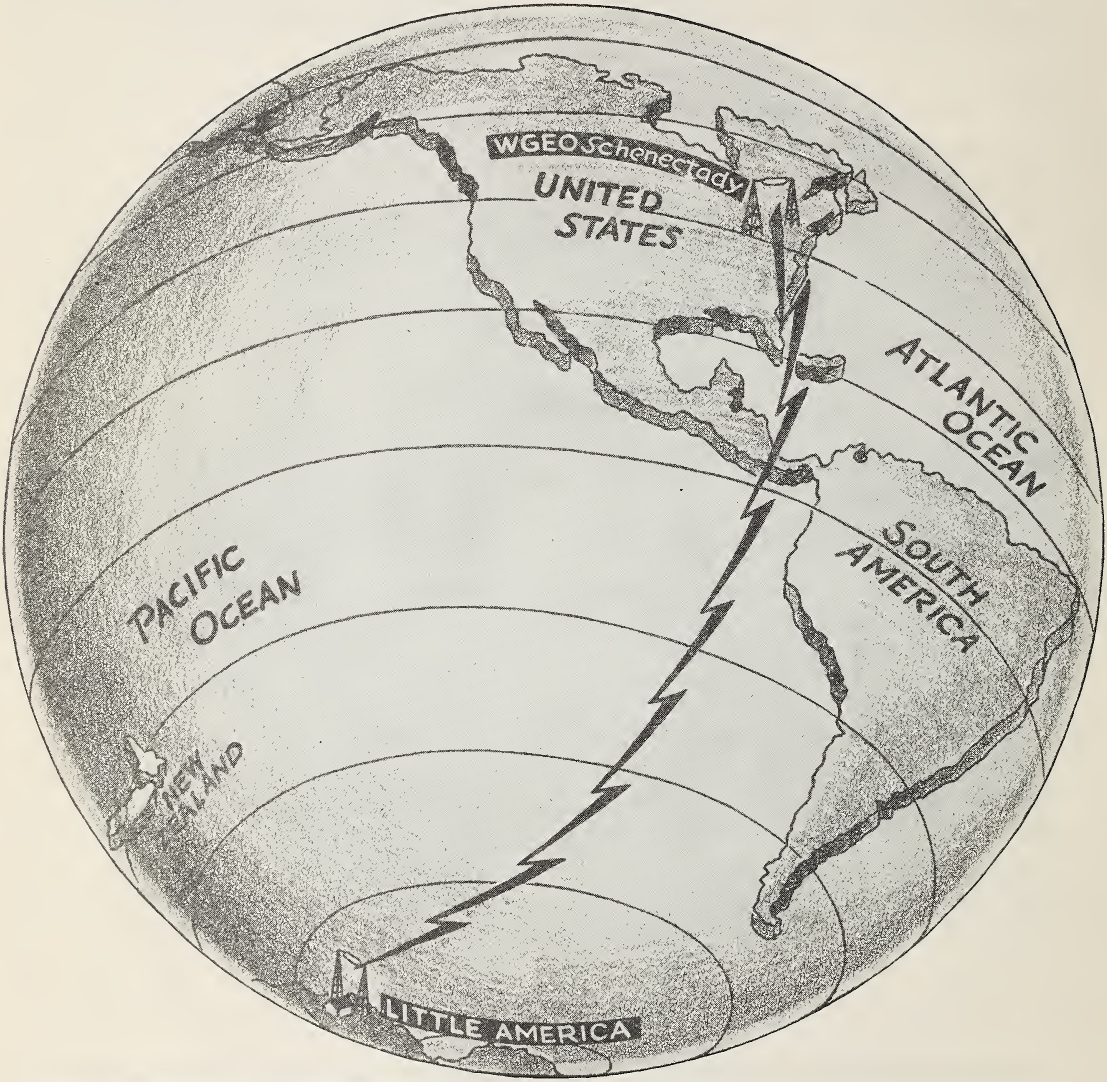
1. What continent is southeast of our country? Point in that direction.
2. Give the name of the world's largest river and tell where it is found.
3. What name is given to the region through which this river flows?
4. What part of South America is drained by the Amazon river? Tell about the slope of the land in this area.
5. In what belt is the Amazon basin located?
6. Is the Amazon river north or south of the Equator? In what direction does it flow?
7. Where does the Amazon river rise? Into what does it empty?
8. How long is the Amazon river? For what distance up the river can small steamers go?
9. Do many streams flow into the Amazon river? What are they called? Why? Tell something of the size of the largest of these.
10. What kind of climate has the Amazon basin?
11. Describe plant growth in the Amazon jungles.
12. Name some animals of the Amazon basin.
13. What is the chief product of the Amazon basin?
14. From what is rubber obtained? How?
15. Tell about the natives of the Amazon basin, their food, clothing, and shelter.
16. What is the principal means of travel in the Amazon basin? Why?
17. What conditions make it difficult for white people to live long in this region?

CLASS PROJECT

Divide the class into nine groups. Below are given nine topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in the Amazon basin and life in their own locality.

THE AMAZON BASIN

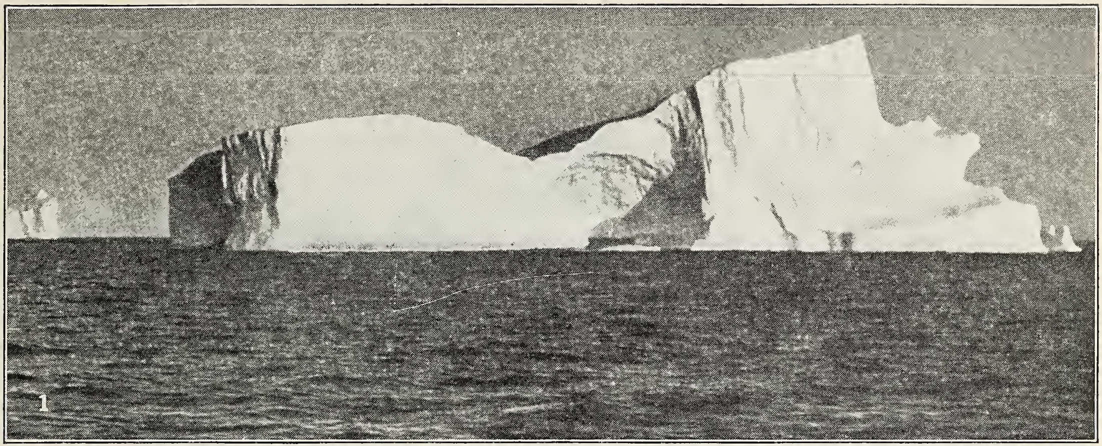
1. Location
2. Climate
3. Surface features
4. Plant and animal life
5. Inhabitants
6. Food, clothing, and shelter
7. Means of travel
8. Occupations and customs
9. Products

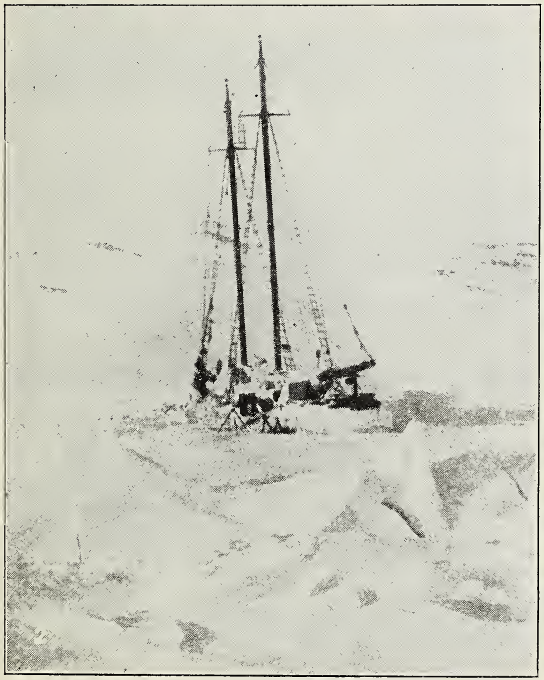


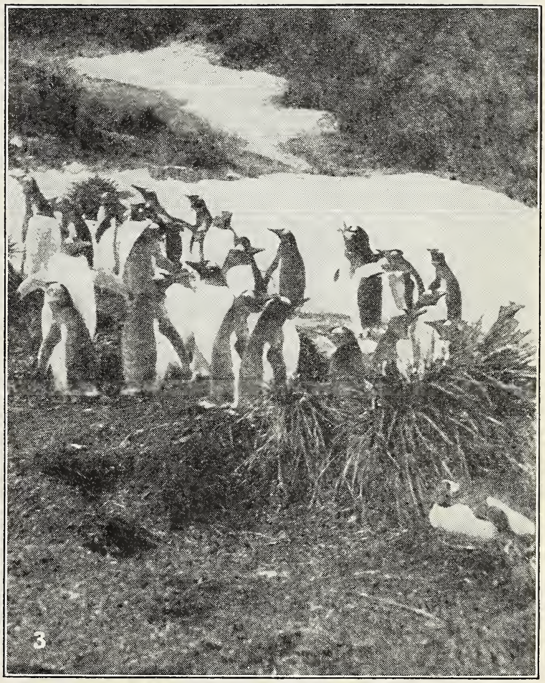
Courtesy of General Electric Co., Schenectady, N. Y.

The cold and icy continent called Antarctica lies far from our United States, at the very southern tip of the world. No people live there at all because it is so very cold and because the land is always covered with snow and ice. The South Pole is near the middle of Antarctica. A few brave explorers have gone into this terrible land to see what they could learn about it. A man named Amundsen, from Norway, discovered the South Pole in 1911. Rear Admiral Byrd of the United States Navy has led four different exploring expeditions in Antarctica—in 1929, 1934, 1939, and 1947. His camp on Antarctica was known as Little America. This map shows how Admiral Byrd and his men were able to talk to people in our own country by means of a short-wave radio station in Schenectady, New York. Radio has been a great help to explorers in all parts of the world.

LANDS OF SNOW AND ICE







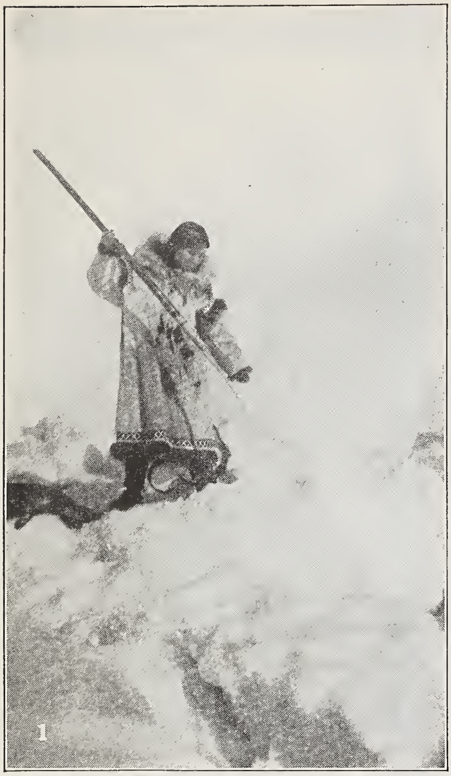
(1) (2) Keystone View Co., N. Y. (3) By Ewing Galloway, N. Y.

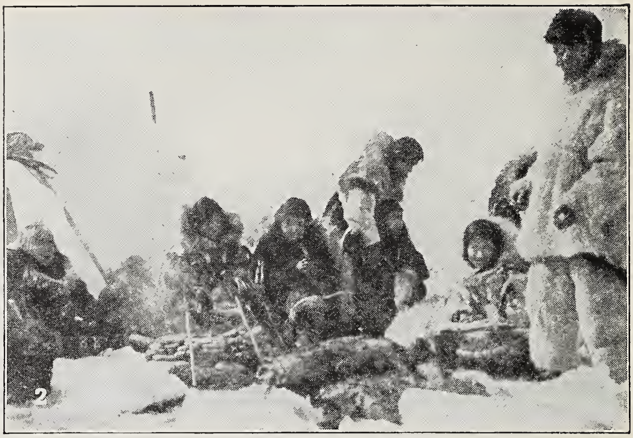
1. An iceberg in the Arctic ocean. This mountain of solid ice rises more than a hundred feet above the sea, and there is eight times as much ice below the surface as there is above. The iceberg was once part of a glacier, or river of ice. When it reached the ocean, it broke off from the rest of the glacier and floated away in the sea. Until an iceberg finally melts it is a danger to ships sailing on the ocean.

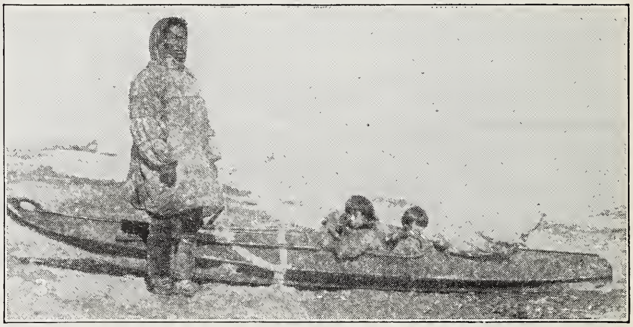
2. How Arctic explorers sometimes spend the winter. This is the ship of Donald Macmillan, a famous Arctic explorer. The ship went north in the summer. When winter came, the ocean water froze and held the ship tight. The explorers piled snow about their boat to keep out the cold winds, and lived until spring on animals which they killed and food which they had brought with them. They took trips inland and learned many valuable facts about the Arctic region.

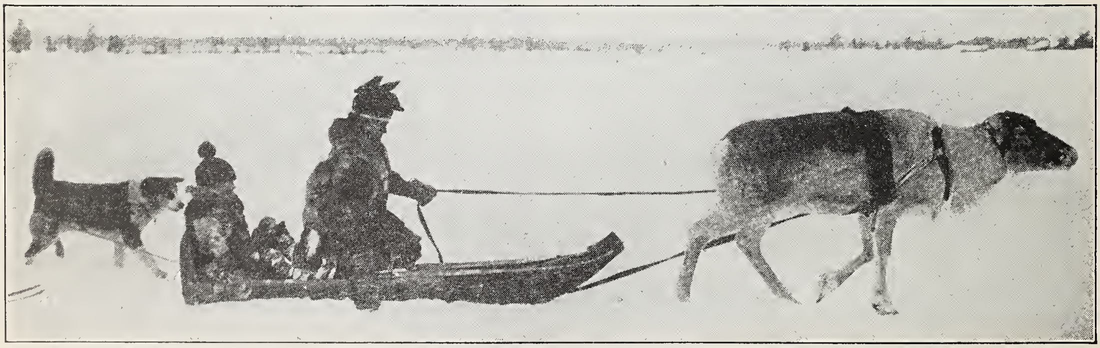
3. Penguins in the Antarctic lands. Great numbers of these birds live along the shores of Antarctic lands They feed on tiny crabs which they catch in the water. The penguins are very tame and friendly, and Antarctic explorers enjoy watching them and studying their ways. There are other kinds of birds in the Antarctic lands but no land animals.

PEOPLES OF THE NORTH COLD BELT









(1) (2) (3) (4) Publishers' Photo Service, N. Y.

1. Amutuk, an Eskimo boy, hunting seals. Amutuk is waiting for a seal to come to the surface of the water to breathe. When a seal appears, Amutuk will spear it with the harpoon which he holds in his hand, and will pull it up with a leather strap. He has already caught one seal.

2. Amutuk's family at dinner. Seals are a common food of Eskimos, and Amutuk and his family are feasting on one which he has caught. Their snow house is small for so big a family, but Eskimos are not used to large, comfortable houses like ours and so do not miss them.

3. Ready for a hunting trip. It is spring in this picture, and the ice has melted from the shore where Amutuk and his family live. His father is about to start out in the canoe to hunt seals on the ocean. This canoe is called a kayak. It is made of sealskin stretched over a whalebone frame. A kayak carries only one grown person. Two of Amutuk's small brothers are playing in the canoe and will have to climb out when their father is ready to start.

4. Lapps of northern Europe. The Lapps, like the Eskimos, live in the North Cold belt. They keep large herds of reindeer. These animals are very important to them. The Lapps eat reindeer meat, drink reindeer milk, and make their clothes and tents of reindeer hides. The reindeer even draw their sledges. This reindeer has shed its horns and will grow new ones in the spring.

THE FAR NORTH AND THE FAR SOUTH

COLD REGIONS

THE ICE CAPS OF THE WORLD

Far to the north and far to the south of us are regions very different from the hot, moist country of the Amazon basin. They are regions of bitter cold, of frozen rivers and seas, of land on which no trees grow, for here everything is buried deep under snow and ice most of the year. These ice covers of the frozen regions are known as the ice caps of the world.

THE ARCTIC AND ANTARCTIC REGIONS

The Arctic region, or North Cold belt, is an immense area bounded by an imaginary line around the earth, called the Arctic Circle. At the center of this area is the most northern point of the earth, the North Pole. The Antarctic region, or South Cold belt, is an area of equal size, bounded by an imaginary line called the Antarctic Circle. At its center is the most southern point of the earth, the South Pole.

The Arctic and the Antarctic regions are much alike. Both are very cold because they receive only the slanting rays of the sun, and even these at only certain times of the year. Both are covered, almost all the year round, with great masses of ice and snow. Springs and streams are frozen, and even the salt ocean is covered with thick ice, except where ocean currents or high winds prevent it by keeping the water in motion.

GLACIERS AND ICEBERGS

Where the land slopes to the sea, great rivers of ice move slowly down the hills. These frozen rivers are known as glaciers. At the ocean, the glacier ice breaks off in enormous masses, many of them a mile or more in length. These icebergs, as they are called, often tower hundreds of feet in the air, and the part which is under the water is about eight times as great as that above it. As they float along in the sea the icebergs shine brightly in the sunlight, varying in color from white to blue. Some run aground in shallow water. Others drift off to warmer climates where, until they finally melt away, they are a great danger to ships.

POLAR LANDS

If you look at your map, you will see that while land reaches far into the Arctic region, there is no land near the North Pole itself. For 400 miles from the pole there are great stretches of ice-covered water.

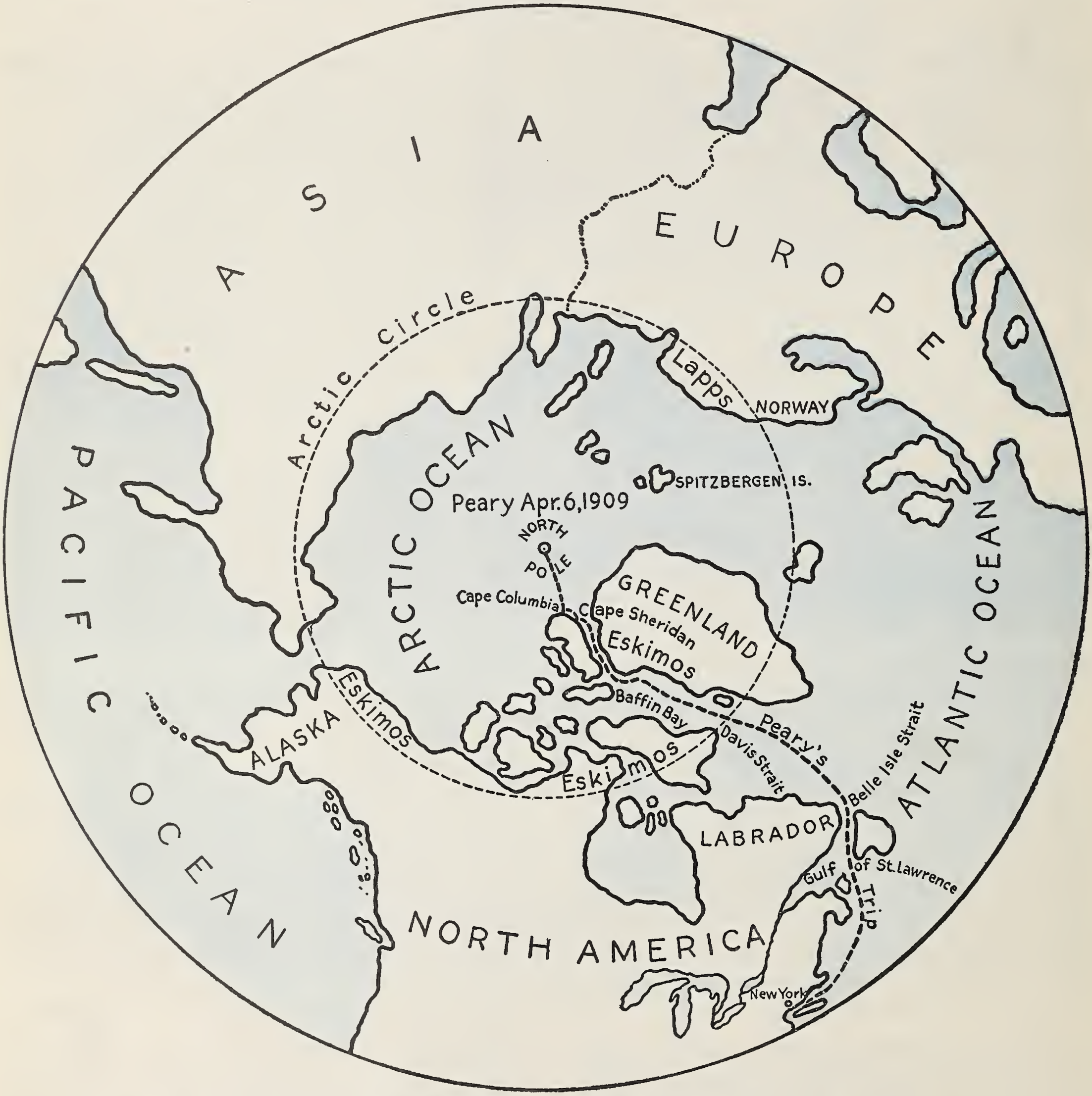
Beneath the ice cap around the South Pole, however, is a great body of frozen land, with mountains nearly two miles high. Here, the weather is even colder than in the far north, and because of the fierce, bitter winds and the lack of food, people cannot live in this land.

PEOPLE OF THE POLAR LANDS

In the cold lands of the Arctic region dwell two unusual races of people. They are the Eskimos and the Lapps. The Eskimos live in the most northern parts of North America. The Lapps live in the far north of Europe.

THE SUN IN THE FAR NORTH

In the far northern lands where the Eskimos and Lapps make their homes, the winters and summers are quite different from our winters and summers. There, the winters are very long and the summers very short. Every winter there is a period of darkness during which the sun does not rise at all, and every summer there is a period of light during which the sun never sets. The farther north one goes, the longer are these periods of unbroken darkness and light. Some of the Eskimos and Lapps live so far north that for two or three months every summer they have daylight all the time and for two or three months every winter they never see the sun come above the horizon, which is the line where the earth and the sky seem to meet.



If we could look straight down on the North Pole, this is how the Arctic regions would appear to us. There is no land near the pole, only great stretches of ice-covered water. How lonely it is! There are few people in these cold lands. The Eskimos live on the northern edge of North America, and the Lapps in the northern part of Europe. Admiral Peary discovered the North Pole. Follow on the map the line of Peary's long, hard journey.

THE ARCTIC WINTER

In these far northern lands it grows very cold during the long winter night. It is not, however, always pitch dark. Though the sun does not rise, the moon shines during part of every month. The stars, too, are bright, and the snow reflects both the starlight and the moonlight. This gives the Eskimos and the Lapps a little light even during their dark season.

THE ARCTIC SUMMER

Even in summer the sun never rises very high above the horizon in the Arctic region. But what a change it brings about! Though it does not give heat enough to melt all the snow and ice, it makes the air surprisingly warm. The ice that covers the ocean melts, and also much of the snow and ice along the shores. Patches of bare ground appear that have been buried deep under snow all winter long. Then wonderful things happen! Grasses spring up. Hundreds of kinds of bright colored flowers bloom, including pink and white dandelions. From flower to flower buzz great bumblebees, and caterpillars crawl over the leaves. Butterflies and moths flutter about. Many little plants grow in the water, and many tiny water animals are seen. On these, birds, fish, seals, and other animals feed. Even mosquitoes are seen in summer in Eskimo land, and are a great nuisance to both man and beast.

BIRDS OF THE ARCTIC

Many birds fly north during the summer and add their songs to those of the birds which live in this region all through the year. You see the snow bunting, a relative of our English sparrow; the ptarmigan, a bird which looks like our quail, and the great black raven. There are sea birds, too,—the eider duck, and the tiny dovekie. The Arctic region is a very interesting and lovely place during these summer months.

HOW THE ESKIMOS LIVE

Not many people live in Eskimo land, and they do not live very close together. Along the northern shores of North America and along the coast of Greenland are scattered tiny villages of only two or three families each. These villages are often miles apart.

You would like these people of the far northern lands if you came to know them. They are cheerful, honest, contented, and affectionate. They are intelligent, too, and learn readily. No race of people could live long in the Arctic lands unless they had strength, courage, and endurance. The Eskimos have all these qualities, so they live very happily in spite of the hardships of their cold country.

The Arctic summers are too short and cool to raise crops, so the Eskimos have to depend upon meat for food, and upon furs for clothing. Up in this cold land there are great white polar bears, which are at home on land or in the water. There are foxes, wolves, and hares. There is the musk ox, a creature about the size of a cow but with a heavy coat of hair and wool. There is the caribou, a reindeer. Among sea animals are the whale, the great tusked walrus, and the seal.

The Eskimos hunt many of these animals, with spears, lances, and harpoons. A harpoon is a spear with a cord attached to it. Sometimes, the hunting is done with small bows and arrows, or rifles obtained from white men. In winter, the Eskimos cut holes in the ice and spear the seals when they come up to breathe. They also spear fish.

Much of their meat the Eskimos eat raw. Quite often it is frozen. At times the meat is cooked by boiling it in little pots. When food is plentiful, part of it is put aside for use during the long, winter night when fresh supplies are always scarce. Food cannot be gathered from day to day throughout the year as is done by the natives of the Amazon basin.

The furs from many animals are used for clothing. The fur skins are cured and made soft by chewing. This is the special work of the women. For hours and hours a day they chew on these skins. Then they sew them into clothes.

In winter the Eskimo men wear great boots of sealskin or caribou skin, with stockings made from the skins of hares. They have trousers of bearskin, and coats of the fur from the fox, caribou, or other animals.

Attached to the coat is a great fur cap, which may be pulled up over the head. Shirts of thin skins, and heavy mittens complete their dress. Even in summer, skin clothes are worn. These are usually made from the lighter skins.

The Eskimo women also wear fur clothing. They have trousers and coats the same as the men. They carry their babies in big fur pockets on the backs of their coats.

Oddly enough, in spite of the cold, the Eskimos are an outdoor people. They use their houses mainly to sleep in, or for protection from the coldest weather. These houses are small so that they may be heated easily.

In the winter the Eskimos live in igloos, little rounded houses built of sod or stone. They are entered through a long tunnel, covered at the inner end to keep out the cold. Sometimes there is one window in the igloo, above the entrance. It is made of a thin slab of ice, or of the inner skin of some animal.

Inside the igloo, at the back, is a platform built of stone and covered with grass and furs. Here the members of the family sleep when they feel like it. With such long periods of darkness and of light it is hard to have regular sleeping hours.

Lamps light and heat the igloos. These lamps are bowls cut out of soft soapstone. In the bottom of the lamp is placed blubber, which is the fat of such animals as seals or walruses. For a wick, moss is used, with one end dipping into the blubber.

When the Eskimos travel in the cold winters they build igloos of blocks of snow wherever they stop. These igloos have no tunnels, but just an opening which can be closed with a block of ice.

With the coming of summer, the Eskimos desert their winter huts and live in tents, called tupiks, made of the skins of animals.

Since the Eskimos depend on animals for their food, their clothes, and even their tents, they are obliged to take their families and move when hunting near their homes is poor. Always they live near the shore, for much of their food comes from the sea animals. If they travel across the ice, they go on foot or on sledges. Dogs are used to draw the sledges. If they travel by water, they go in kayaks or umiaks. A kayak is a boat which holds only one person. It is made of sealskin stretched over a frame of whalebone. The boat has a sealskin top which is fastened tight around the paddler's waist, so that no water can enter. Umiaks are larger, open canoes, which hold five or six people. They, too, are made of skins stretched over a framework of bone.

Because nearly everything the Eskimos need is furnished by the animals they kill, and because they do everything for themselves, they do not have to exchange goods with other countries. They are independent of the rest of the world.

THE LAPPS AND THEIR REINDEER

The Lapps of Europe are not hunters like the Eskimos. They dwell inland and keep great herds of tame reindeer which supply them with meat and milk. They make their tents and their clothing from reindeer hide. They even train reindeer to pull their sledges, instead of using dogs as the Eskimos do.

Like the Eskimos, the Lapps are a wandering people, but for a different reason. Since their reindeer are so very necessary to them, they must live where there is plenty of food for these animals. So when the mosses and plants in one section have been eaten up by their herds, the Lapps move on to other places where there is a fresh supply of food.

Not many years ago, our government bought a large herd of reindeer from the Lapps and brought them to Alaska, where the Eskimos were finding it hard to get enough to eat. The Eskimos soon learned how to make use of the reindeer, just as the Lapps do.

EXPLORERS OF THE POLAR LANDS

Probably you are wondering how we have come to know so much about the Eskimos, who are shut away from the rest of the world. No railroads run to their country and no steamship lines send steamers back and forth. What we know of the Arctic and Antarctic regions we have learned from a few brave men of our own and other countries who have faced the perils of those far-off places.

Again and again people have tried to cross the Arctic ocean, in the hope of finding a northern passage for ships from the Atlantic to the Pacific. Time after time explorers have gone into the Arctic lands, often trying to reach the North Pole itself. Many died from cold or lack of food. Others had their boats crushed by the ice. A few have come back to tell us of their discoveries and experiences.

One explorer, named Stefansson, lived for months on the ice of the Arctic seas, shooting seals to keep himself and his dogs alive. Part of the time, he lived with Eskimos who had never before seen a white man. Another, Macmillan, sailed far north until his ship was caught in the ice and frozen there for the entire winter.

PEARY—FIRST TO REACH THE NORTH POLE

Although for many, many years men had tried to reach the North Pole, Admiral Peary, of our own United States Navy, was the first man to do so. For twenty-five years he had tried, and, at last, succeeded.

In the summer of 1908, Peary sailed from New York on the Roosevelt, a ship specially built to withstand crushing by the ice. He knew he had a long, hard trip, so he took plenty of food, clothing, and equipment with him. Among the foods were flour, baking powder, sugar, salt, canned and dried fruits and vegetables, crackers, bacon, and canned meats. He took a large supply of pemmican, a nourishing food much used in the Arctic regions. It is made of dried meat mixed with meat fats and raisins. He did not take fresh meat, for he knew he could get plenty of it in the northland.

Peary also took wood from which to make sledges, and whips and lances for his Eskimo helpers. He carried a supply of matches, needles, thread, rifles, knives, and other things the Eskimos like, to pay them for their work. Did you know there are no stores and no money in the far north?

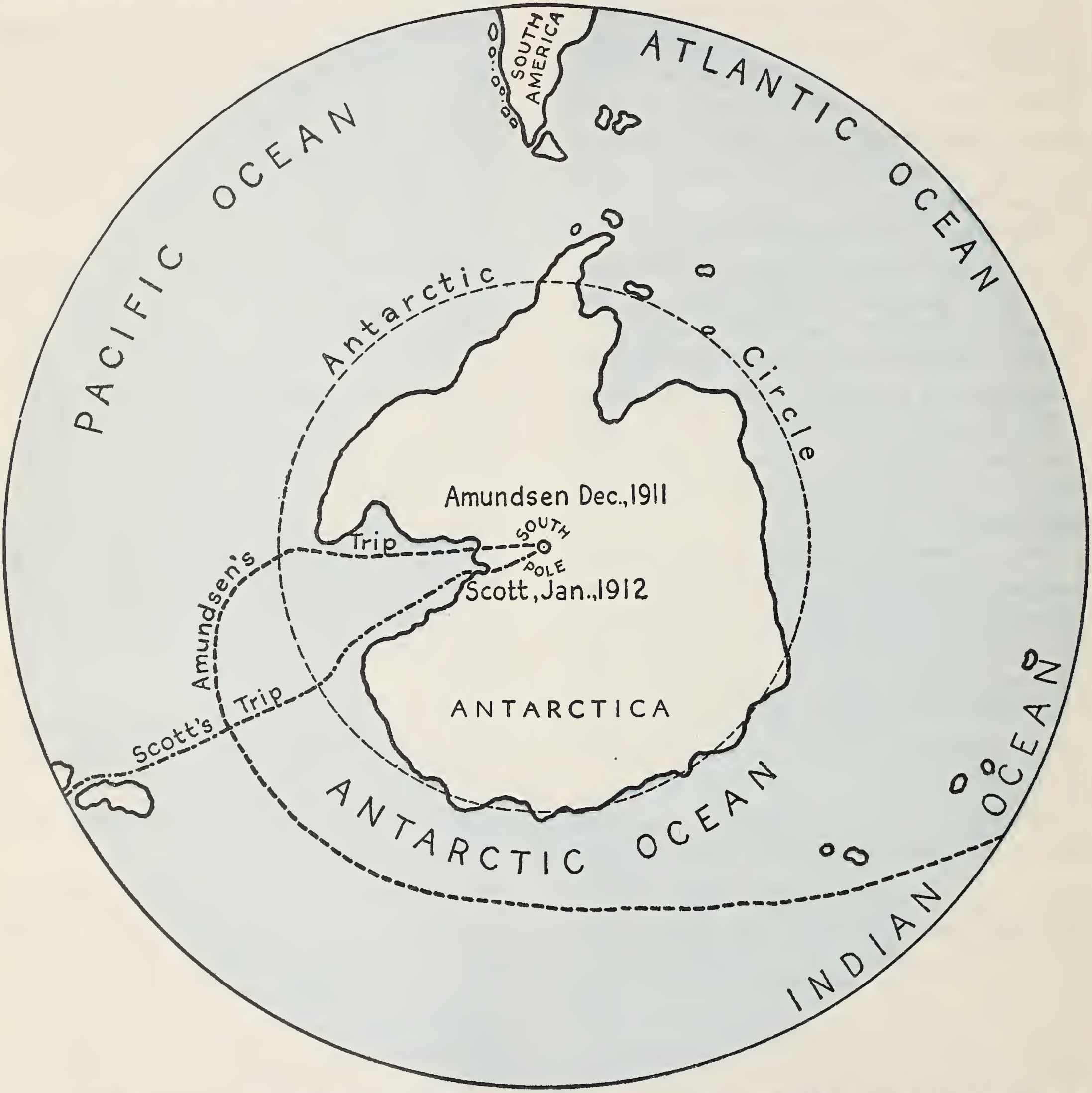
Peary sailed north along the Atlantic coast, through the Gulf of St. Lawrence, through Belle Isle strait, and along the coast of Labrador. He stopped in Labrador to buy furs for winter clothing and whale meat for his dogs. Then he went through Davis strait, across the Arctic Circle, and into Baffin bay to the west of Greenland. In these regions he took on board several Eskimo families with their dogs and drivers to help him. Sailing northward, he entered the Arctic ocean at Cape Sheridan. There he had to spend the winter as his ship was frozen in the ice.

During the long winter, the Eskimo men killed game for meat, and made sledges and dog harness and other things needed. The women sewed clothes of fur for their own families and for Peary's men.

On February 15, 1909, about a week before the sun would appear, the men, with their dog teams, started for the North Pole in six groups. They went along the shore to Cape Columbia and then, on March 1st, turned north over the frozen Arctic ocean. It was hard going. Often they came to wide spaces of open water. They had to go long distances around, or wait for the water to freeze. Either course delayed them for many days. One by one, the groups were sent back as the food supply became low. Finally only one group was left. It consisted of Peary, a Negro named Henson, and four Eskimos. On April 6, they reached the North

Pole. It had taken them 36 days from Cape Columbia. They stayed there 30 hours. All that time the sun seemed to go round the sky at the same height above the horizon, which showed them that they were at the northernmost part of the earth.

Peary's party then started back for Cape Columbia, reaching it in sixteen days. Soon they were on their ship once more. But a long, long time passed before the vessel could get free from the ice. It was not until months later that Peary reached a point where he could send out his message to the world that he had discovered the North Pole.



Here we are looking down on the Antarctic regions, around the South Pole. There is much land here, most of it high above the sea. How different from the Arctic regions, where there is no land near the pole! It is much colder around the South Pole than around the North Pole. No people live here. Amundsen was the first to reach the South Pole and Scott reached there shortly after. Follow their paths on the map. Why do you think they landed where they did?

Others have since reached the North Pole, but in different ways. In 1926, Commander

OVER THE POLE IN AN AIRSHIP

Byrd, also of our Navy, flew an airplane from the island of Spitzbergen, straight to the pole and back again. The island of Spitzbergen is far north of Norway, a country of Europe. In the same year Amundsen flew from Spitzbergen across the North Pole in a great airship, called the Norge. Having crossed the pole he kept right on, and finally landed in Alaska.

Another airship, the Italia, crossed the North Pole from Spitzbergen, but was wrecked on the return trip. Some of the party were saved, but many perished.

DISCOVERY OF THE SOUTH POLE

Because of the great desolate land areas in the Antarctic region, few attempts have been made to reach the South Pole. In 1902, Robert F. Scott, an Englishman, explored part of this land. In 1909, another Englishman, named Shackleton, went farther toward the South Pole than any man had gone. In 1910, two exploring parties set out for the South Pole. One sailed from England, and was commanded by Scott. The other started from Norway, and was headed by Amundsen. In January, 1911, the two parties landed at points 400 miles apart. It took each party months to explore the region nearby, and to make preparations to reach the pole during the Antarctic summer, which comes in December and January.

In October, Amundsen started with four companions and four sledges drawn by dogs. It took them fifty-two days to reach the South Pole, a distance of 864 miles. Here they set up the flag of Amundsen's country, Norway, and left a letter addressed to the king of Norway for the next comer to carry back as proof that they had reached the pole.

Scott's party reached the South Pole five weeks later and found Amundsen's letter. But they never left Antarctica alive. Later, a searching party found their bodies and a written record of their terrible hardships.

In 1929, Commander Richard E. Byrd, now Rear Admiral Byrd, flew an airplane over the South Pole. Returning to Antarctica in 1934 with an exploring party, he left his companions and spent the winter alone in a little hut studying the temperature and winds of Antarctica. Again, in 1939, Byrd led a government expedition to Antarctica and remained there over a year to learn more about this continent.

Admiral Byrd's greatest expedition to Antarctica took place in 1947. He and his men discovered many new things about the cold southern continent. They even found some places where there was no snow on the ground and where there were unfrozen lakes.

I SHOULD REMEMBER

1. The Arctic region, or North Cold belt, is an immense area bounded by the Arctic Circle. At its center is the North Pole.
2. Far south, and bounded by the Antarctic Circle, is the Antarctic region, or South Cold belt. At its center is the South Pole.
3. The Arctic and Antarctic regions are very cold and are covered with snow and ice. The ice covers of these Cold belts are called the ice caps of the world.
4. In the Cold belts, frozen rivers, or glaciers, move slowly down the hills to the sea. Here the glacier ice breaks off in immense masses called icebergs.
5. There is no land within 400 miles of the North Pole. The South Pole is surrounded by an immense land area.

6. No people live in the Antarctic region, because of the cold and lack of food. In the Arctic region live the Eskimos and the Lapps. The Eskimos live in the northernmost parts of North America. The Lapps live in northern Europe.

7. The Arctic region has long winters and short summers. Every winter there is a period of darkness during which the sun does not rise at all and every summer there is a period of light during which the sun does not set. The farther north one goes in the Arctic region, the longer are these periods of unbroken darkness and light. During the winter night the moon and the stars give some light. Even in summer the sun never rises very high above the horizon.

8. In summer, the sea ice and the ice and snow along the coasts melt.

9. The summer is too short and cool to raise crops, so the Eskimos live by hunting.

10. Animals of the Arctic regions are the polar bear, fox, wolf, hare, musk ox, and the caribou. Common sea animals are the whale, walrus, and seal. The Eskimos hunt them with spears, harpoons, lances, and guns. They also spear fish. They eat meat raw, or else boil it in little pots.

11. The Eskimos are an outdoor people. Their winter homes are igloos, small rounded huts built of sod or stone.

12. In summer the Eskimos live in tents of animal skins, called tupiks.

13. The clothes of the Eskimos are made of the skins and furs of animals.

14. Because the Eskimos depend on animals for their living, they have to move from place to place when the hunting gets poor.

15. Because the animals of the Arctic region supply the Eskimos with everything they need, they do not have to exchange goods with other countries.

16. The Lapps are herdsmen. They live on the meat and milk of the great herds of reindeer they keep, and their clothes and tents are made of reindeer hides. They move from place to place, seeking fresh pastures for their herds.

17. Admiral Peary was the first man to reach the North Pole. He discovered it on April 6, 1909.

18. Three parties have reached the South Pole. They were led by Amundsen, a Norwegian, Scott, an Englishman, and Admiral Byrd, an American.

SOME THINGS TO TALK ABOUT

1. The Arctic and the Antarctic regions—how they are alike, and how they differ.
2. How the seasons in Eskimo land compare with our own.
3. The animals of the Arctic.
4. How the Eskimos live.
5. Eskimo dwellings.
6. The Lapps, and how they live.
7. Differences between the Amazon and the Arctic regions.
8. Arctic and Antarctic explorers.

EXERCISE

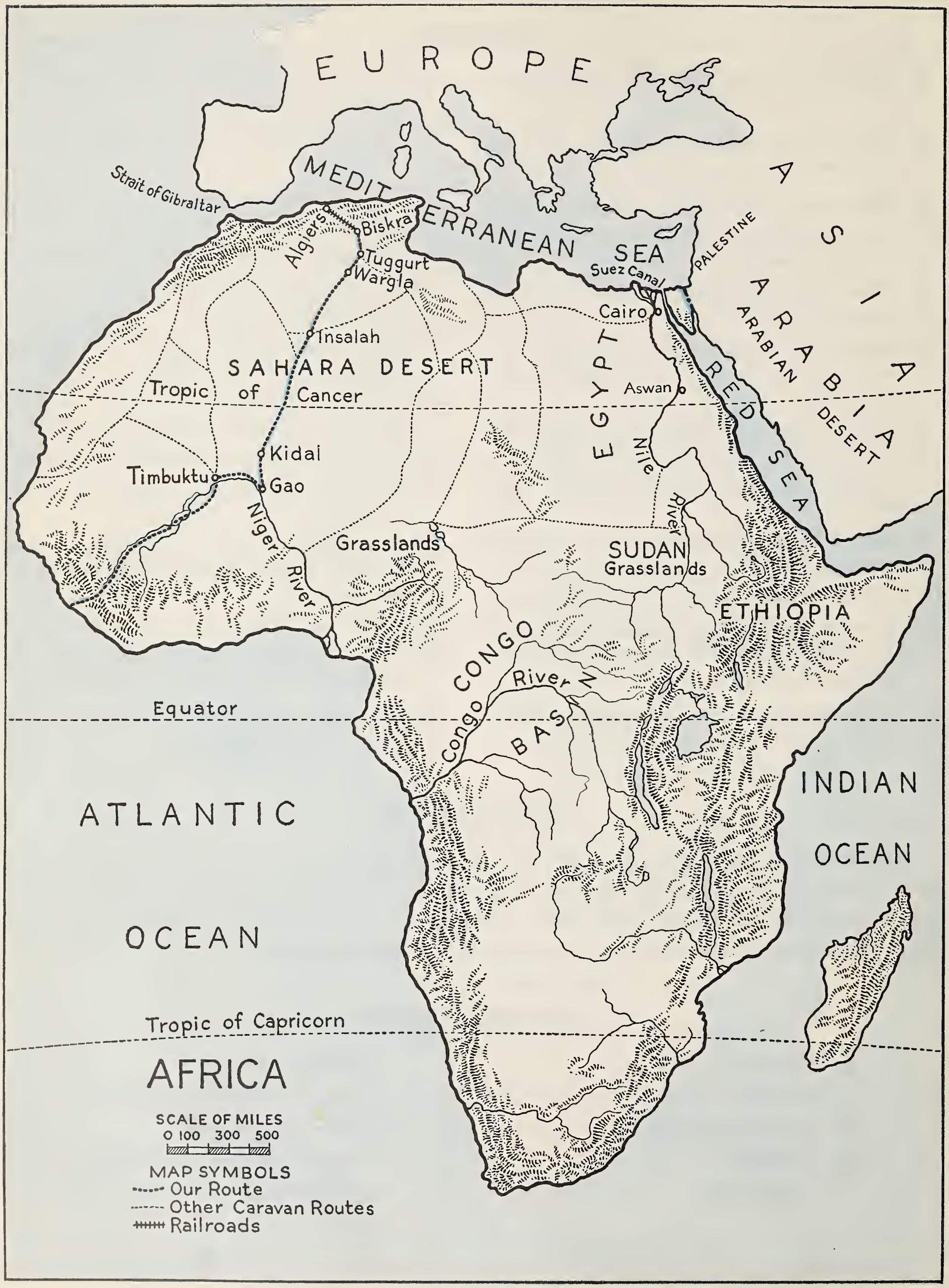
1. Where is the Arctic region? Point toward it.
2. Where is the Antarctic region? Point in that direction.
3. Where is the North Pole? The South Pole?
4. How are Arctic rivers different from our rivers? What name is given them?
5. What are icebergs, and how are they formed?
6. What is the main difference between the region at the North Pole and that at the South Pole?
7. Name two races of people that dwell in the Arctic region. Where does each live?
8. Describe the Arctic day and night. The Arctic summer.
9. Give some of the qualities of the Eskimo people.
10. What is the chief occupation of the Eskimos?
11. Name at least five large animals found in the Arctic regions, and tell whether they live on the land or in the sea.
12. What weapons do the Eskimos use in hunting?
13. In what ways do the Eskimos use the bodies of the animals they kill?
14. What is an igloo? How is it built? How is it heated?
15. Do the Eskimos always live in one place? Why?
16. Tell about the summer home of the Eskimos.
17. Describe the dress of the Eskimos.
18. How are skins prepared for use?
19. Would you rather visit an Eskimo child in summer or in winter? Why?
20. Would an Eskimo child probably rather visit you in summer or in winter? Why?
21. On what do the Lapps depend for a living?
22. Why do the Lapps move about from place to place?
23. Name two explorers from whom we have learned much about life in the Arctic regions.
24. Tell about Peary's trip to the North Pole.
25. Name two other explorers who reached the North Pole, and tell how they reached it.
26. Name two explorers who reached the South Pole. Describe their trips.

CLASS PROJECT

Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in the cold regions and life in the Amazon or in their own locality.

THE COLD REGIONS

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products


EUROPE
ASIA
ARABIA
MEDITERRANEAN SEA
Strait of Gibraltar
Algiers
Biskra
Tuggurt
Wargla
Insalah
SAHARA DESERT
Tropic of Cancer
Kidal
Timbuktu
Gao
Niger River
Grasslands
Suez Canal
PALESTINE
Cairo
EGYPT
Aswan
Nile River
RED SEA
ARABIAN DESERT
SUDAN
Grasslands
ETHIOPIA
CONGO BASIN
Congo River
Equator
ATLANTIC OCEAN
INDIAN OCEAN
Tropic of Capricorn
AFRICA
SCALE OF MILES
0 100 300 500
MAP SYMBOLS
Our Route
Other Caravan Routes
Railroads

A JOURNEY ACROSS THE SAHARA DESERT

A HOT, DRY LAND

When we took our trip from New York to San Francisco, we traveled by automobile comfortably and quickly over a smooth highway. We had no trouble in getting good food and lodging almost all the way. For the most part we traveled during the daytime, meeting or overtaking hundreds of tourists like ourselves. Along the route we passed through many great cities, and many different kinds of country.

In the Amazon basin we found few people, very few towns, and almost no roads. In that hot, moist land, covered with jungles, what people there were had to get about in boats on the many streams.

In the Arctic, there were no real roads, no trees, and very few people. Travel was on foot, in sledges drawn by dogs or reindeer, or in skin canoes. Going anywhere was hard because of cold winds and the snow and ice.

THE GREAT SAHARA DESERT

Now we shall visit another land—a land that is like a dry, hot sea of rock and sand. This time we are headed for the Sahara, a great desert in far-off Africa that is somewhat like our own desert in the west, but much hotter, and almost as large as our United States.

On our trip across the Sahara desert we shall find strange, new conditions. Like the ocean, this sea of rock and sand has no paths for us to follow, and we shall need men to guide us on the way. There are no cities, and no hotels to stop at, as only a few people live in this whole desert. At times we will have to travel many miles without fresh water, for there are no rivers, lakes or streams in the desert. We must carry what food and water we need for ourselves and for the camels on which we will ride.

FROM NEW YORK CITY TO BISKRA

New York City is again our starting point. For nine days our steamer sails almost directly east across the Atlantic ocean and through the strait of Gibraltar into the Mediterranean sea. We land at the beautiful city of Algiers on the north coast of Africa, only a few hundred miles from the great desert.

From Algiers we take a train to Biskra. On the way we first pass through farming country. Here and there are fields of wheat or barley, or groves of olive trees. And then, as we near Biskra, we enter desert land.

AN OASIS

Biskra, we are told, is an oasis on the northern edge of the desert. An oasis is a spot in a desert where there are springs or wells, and where plants grow. From Biskra, the desert stretches away to the south for 1600 miles. That is the direction we will travel, for no man has ever crossed the Sahara from east to west, a distance almost twice as great.

THE ODD NATIVE DRESS

Almost the first thing we notice at Biskra is the peculiar way in which the people dress. Many of them are Arabs. They wear flowing garments, some gaily colored, but most of them white. In place of hats they have pieces of cloth wound about their heads. Such clothes, it seems, are a good protection against the burning heat and the stinging sand of the desert. The clothing worn by the people of the desert is mostly white, for white clothes are the coolest.

FROM BISKRA TO TUGGURT

At Biskra, we climb into a high stage coach which in the next two days will carry us to Tuggurt, 150 miles away. As we go we see low thorn bushes, with here and there clumps of grass. Not more than six or seven good rains fall here each year. After a rain the grass springs up, only to wither in a few days, scorched by the hot sun.

FROM TUGGURT TO WARGLA

At Tuggurt, we make plans for the next part of our journey. We hire camels to ride on and others to carry our luggage. We also hire camel drivers and two dark-skinned Arab guides. The guides do not ride, but walk ahead of the camels. The Arabs are mainly a white race, burnt dark by the sun. Like most Arabs, we find that our guides learn quickly. They learn even more quickly than the Eskimos of the north and are far more intelligent than the Amazon Indians.

THE SHIPS OF THE DESERT

Camels are so well fitted for life on the great sea of rock and sand that they are often spoken of as the "ships of the desert." In their stomachs they can store enough water to last them for several days. When food is scarce they live on the fat stored in the humps of their backs. They have broad, thick feet, which make it easy for them to walk over the hot, shifting sands of the desert. During heavy wind storms they can close their nostrils to keep out the flying sand.

Before we start out, our camels are allowed to drink all they will. Often they drink as much as ten gallons of water at a time. The guides then make them kneel while we climb into our places. Like a cow, the camel gets up hind feet first. He nearly throws you over his head when he rises.

The baggage camels are stronger and slower than those we are to ride. While our luggage is being loaded on their backs they whine and bellow.

Finally we are under way again. We are all armed, for there are desert robbers who sometimes attack caravans, as groups of people crossing the desert on camels are called. It seems strange, at first, to ride so high from the ground. The camels sway from side to side. We feel seasick and wish we could get down, but the guides keep steadily on, never looking back.

Much more of the Sahara is covered with rocks and stone than with sand. From our high seats on the camels we can see for some distance about us. Here and there are sand dunes, or hills of sand. Each year these dunes are moved several feet by the wind.

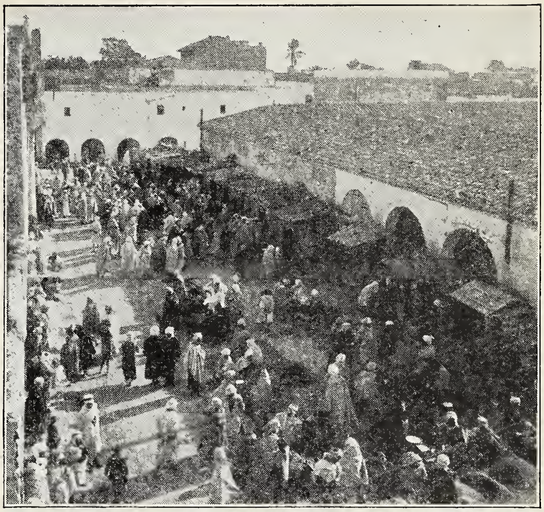
WARGLA

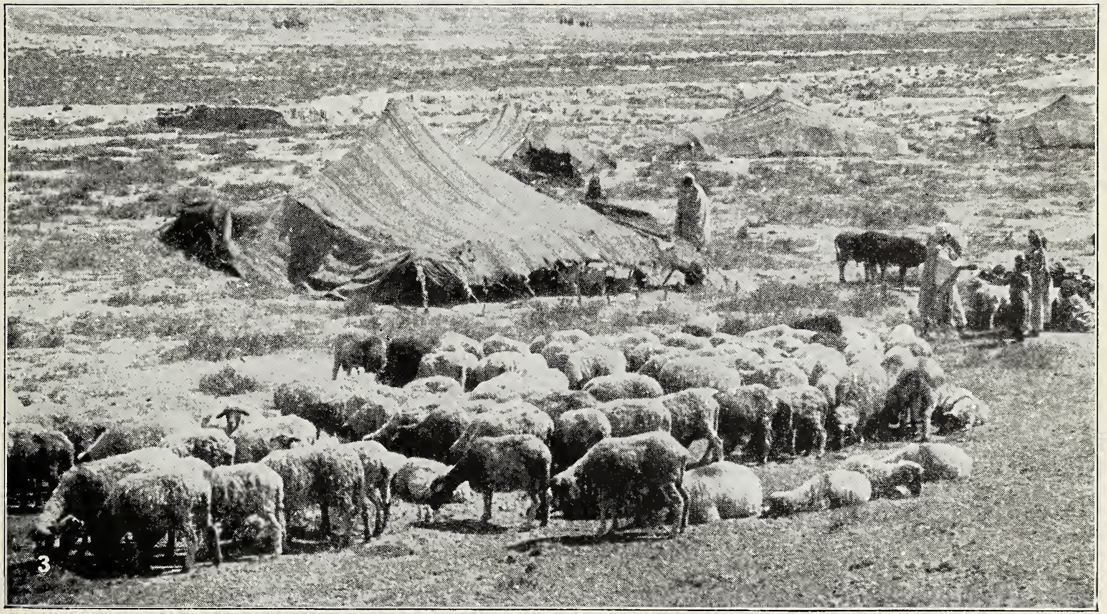
At last we reach Wargla, another oasis, where there are wells of water. Three thousand people live in this prosperous oasis. A telegraph line connects Wargla with the outside world. Let us send a telegram to the folks at home, for it will be two months before we will be able to send another.

FROM WARGLA TO INSALAH

Insalah, 400 miles deeper in the desert, is our next real stop. The wells between Wargla and Insalah are about 40 miles apart. At night we pitch our tents beside one of these wells. Near the wells we sometimes see shepherds tending flocks of sheep and goats which live on the grass that grows between the stones. These shepherds are called nomads because they wander about from place to place, searching for food for their flocks. Their homes are tents, which can easily be moved.

OUR JOURNEY TO THE SAHARA DESERT





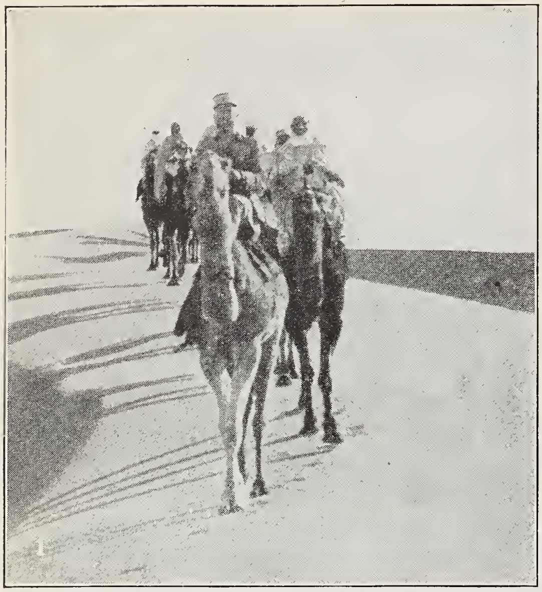
(1) (2) Publishers' Photo Service, N. Y. (3) By Burton Holmes, from Ewing Galloway, N. Y.

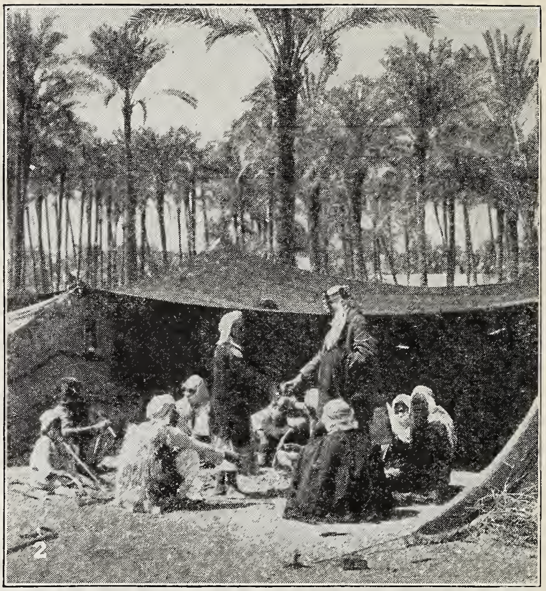
1. A street in Algiers. Our steamer has brought us from New York to this city on Africa's northern coast. Before we start for the desert, we visit the old hillside streets where many Arabs live. This Arab fruit seller has spread out his wares to tempt us as we pass by. The woman in white is waiting with her basket to buy some of the fruit and the little Arab boy wishes he could have some.

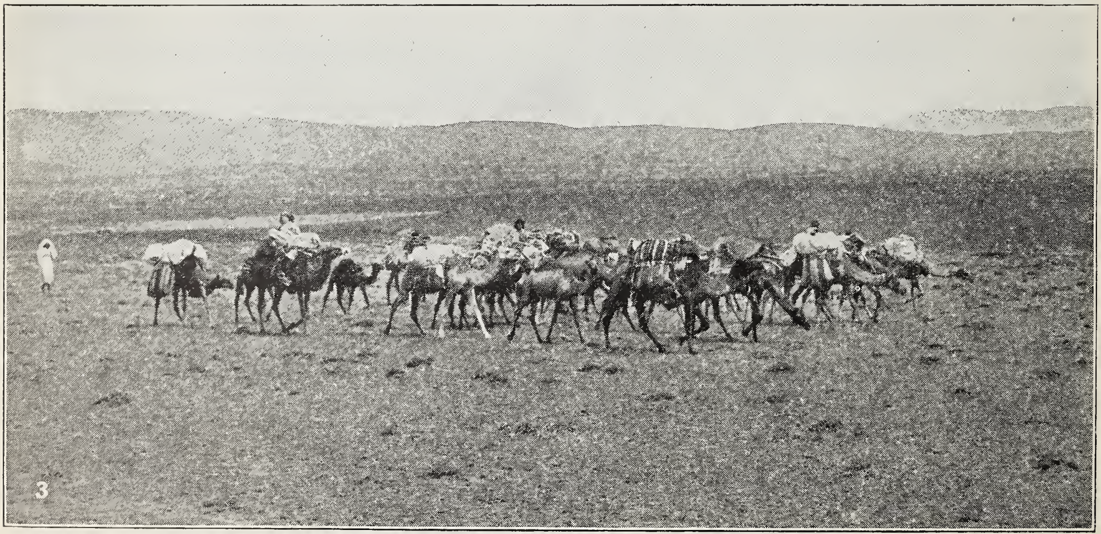
2. The market at Biskra. We travel by train from Algiers to this town on the northern edge of the desert. It might be well for us to buy some white, loose clothing in Biskra. It will be very hot on the desert and white clothing is the coolest. The clothing should be loose and flowing and large enough to cover us completely in case of a sand storm. When a heavy wind sweeps across the desert it blows up great clouds of sand. The sand stings one and even makes it hard to breathe.

3. Arabs and their sheep. From Biskra to Tuggurt is 150 miles. We make the trip by stagecoach in two days. On the way we pass these sheep, which belong to a wandering Arab tribe. There is not much grass in this region, for it seldom rains and there is little water. When the sheep have eaten all the grass here they will be driven to other feeding grounds. The tents and clothing of the Arabs are made from camel's hair. Their sheep supply them with meat and the wool is sold.

CROSSING AFRICA'S HOT SANDS







(1) Keystone View Co., Inc., N. Y. (2) Publishers' Photo Service, N. Y. (3) By Ewing Galloway, N. Y.

1. The start of our long desert journey. At Tuggurt we hired a number of camels to carry us and our baggage across the desert. We also hired men to guide us. Then, putting on the loose white robes we bought at Biskra, we set off. All about us is a sandy sea, but as we go deeper into the desert we will notice that much of its surface is rocky. Because of the heat, we shall travel during the morning and late afternoon and rest during the hottest part of the day.

2. A Bedouin camp in a large oasis. An oasis is a place in the desert where there are springs or wells of water and where plants grow. Our caravan stops for the night at this oasis, where we sleep under tents of heavy camel's hair cloth. Our guides have met some old friends who are offering them shelter until morning. The desert people wear cloths wound about their heads, instead of hats. These can be drawn over their faces to protect them during sand storms.

3. We meet an Arab caravan. The camels in this caravan are loaded with dates and wool which will be sent by steamship to markets in many parts of the world. In crossing the desert we have passed several caravans on their way to the seacoast. Our trip has been an exciting one. It is almost two and one-half months since we started from Biskra. We are glad to know that after a few more days' travel we shall reach the sea and sail for home.

THE VILLAGES OF INSALAH

Although we find three villages in the oasis of Insalah, only about 500 people live in all three. The houses of the villages are made of sun-baked mud and have flat roofs. The people sit crosslegged on the floor, or on benches built along the walls. These benches are also used as beds.

It has taken us fifteen days to travel from Wargla. We are glad to sleep in a house again, to rest in the shade of the palm trees, and to drink the cold, fresh water from the wells.

Insalah, three miles long and one mile wide, is one of the principal oases in this part of the desert. From here caravan routes lead out in several directions, for a prosperous oasis is a center of desert trade. The water from the wells is used to irrigate the land nearby. Date palms, and barley and other grains are raised. These are the principal foods of the desert people. Many herdsmen come into the village to trade wool, sheep, or goats for barley or dates. We see a freight caravan leaving—a long line of camels, traveling one behind the other and loaded high with packages of dates and other goods which are being sent to the seaports. There they will be shipped to the great markets of the world.

While in Insalah, we see a band of Arab, or Bedouin, horsemen. They are tall, dark men dressed in flowing white robes. They ride on small, graceful Arabian horses, and many of them carry long-barreled rifles. At their head rides their leader, or Sheik. He is the chief of the desert tribe to which these riders belong.

FROM INSALAH TO THE SEA

Rested now, we make plans to continue our trip to Kidal, 700 miles farther south. This is the hardest part of our journey. The wells between Insalah and Kidal are long distances apart. We replace the two guides who have led us to Insalah with two who know the way to Kidal. We also hire fresh camels. Large bags are filled with water, and these, and food for the camels, are loaded on some of the animals. Others carry our food and baggage.

Again we move on into the desert. The sun is very hot, so the camels are allowed to rest for several hours during the hottest part of each day. The nights are cool, however, and we travel from four o'clock in the morning until ten, and from three in the afternoon to ten at night. While we rest we notice that our shadows at noon are very short. The sun is almost directly overhead and the temperature is about 130 degrees. We are just south of the Tropic of Cancer and we are again in the Hot belt of the world.

A SAND STORM

On one day we have a heavy rain, but because of the terrible heat the raindrops dry up as soon as they touch the hot sand. Another day we notice that the camels suddenly stop eating the bits of dried grass and the leaves of the stunted thorn bushes on which they were feeding. We hear a strange sound. It is the wind. A sand storm is coming! The camels lie down with their heads close to the ground. They close their eyes and nostrils to keep out the sand. Hurriedly, we lie down close beside them, cover our faces, and wait. The storm comes closer and closer. The wind blows harder and harder, carrying before it great clouds of sand which sweep over us, stinging our flesh wherever it touches us. We dare not look up. We can hardly breathe.

After what seems an endless time, the wind gradually goes down. The air becomes clear again and we look about. The trail which we had left in the sand is completely covered.

We have traveled 30 miles since leaving

the last well at 3 o'clock the day before. It is another day's travel to the next well. Will the guides be able to pick up the trail again, or have all the signs by which they find their way been buried by the sand?

As night approaches, we notice that the guides talk often with each other. We cannot understand what they are saying and we are afraid that they have lost their way. After anxiously watching them, as they lead us over the ridges and through the gullies, we at last feel sure that they have seen familiar landmarks, and that we are headed in the right direction.

THE EDGE OF THE DESERT

Thirty-five days after leaving Insalah we reach Kidal. We rest here for three days and then with fresh camels and a new guide we start out toward Gao. Each day we see more grass. One of the guides succeeds in killing an antelope which has strayed out on to the desert, and we have fresh meat to eat. After twelve days we reach Gao. In 75 days we have traveled 1600 miles, and have crossed the great Sahara desert.

From Gao, where it rains several times a year, we travel through grassland to Timbuktu. From Timbuktu we go up the Niger river and over the hills to the sea, where we take a steamship for home.

OTHER GREAT DESERTS OF THE WORLD

The Sahara is only one of the great deserts of the world. The Arabian desert, east of the Sahara, in Asia, is a part of the countries of Palestine and Arabia. So hot and dry is this desert that more than a quarter of it has no inhabitants at all. The driest part, in southern Arabia, is visited only by a few Bedouins.

There are two other deserts in Asia. In northwestern India is the Thar desert, where there is no rain but where the natives raise wheat and barley. A river, which rises in the mountains, flows through the Thar desert, and with its waters the natives irrigate the land. In China is the desert of Gobi, more than two miles above the level of the sea, where the air is very cold.

In the interior of western Australia there is still another great desert area where almost no people live, and where there are few animals and little plant growth. So we see that there are all sorts of deserts in this world of ours.

I SHOULD REMEMBER

1. The Sahara is a great desert in northern Africa. It is a hot, dry land almost as large as the United States, with no lakes, streams, or rivers.
2. The Sahara can be reached by taking a train from Algiers, a city on the northern coast of Africa, to Biskra, an oasis near the northern edge of the desert.
3. An oasis is a spot in the desert where there are springs or wells, and where plants grow. The water from the springs or wells is used to irrigate the land nearby, so that date palms and grains can be raised.
4. Much more of the Sahara is covered with rock than sand. There are no cities and very few people in the Sahara. There are no roads. Native guides are needed to find the way across the desert.
5. Camels are the most important means of travel in the desert. They are able to go for several days at a time without water, and can carry heavy loads. Their feet are broad and thick so that they are able to walk easily on the hot, shifting sands of the desert.

6. In the desert the days are very hot and the nights are cool.
7. Many of the inhabitants of the Sahara desert are Arabs. The Arab chiefs are called Sheiks.
8. The Arabs learn quickly and are even more intelligent than the Eskimos and far more so than the natives of the Amazon basin.
9. The Arab desert dwellers are mostly nomads, or wanderers. When their flocks of sheep or goats have eaten up the scanty grass in one section they travel on until they find new pastures.
10. Dates and grains are the chief foods of the people of the desert. Dates from the Sahara are shipped throughout the world.
11. The oases are trade centers, where the desert people trade goats, sheep, or wool for dates, grain, and other things.
12. The desert dwellers dress in long flowing robes and wear a cloth wound about their heads. White is the color worn most in the desert, as it is coolest.
13. The houses found in the oases are mostly mud huts which have been baked hard by the sun.
14. Other large deserts of the world are the Arabian desert, the Thar desert, the desert of Gobi, and a great desert in Australia.

SOME THINGS TO TALK ABOUT

1. Travel in our country and in the Sahara.
2. The desert and its climate.
3. Means of travel in the desert.
4. Dangers of desert travel.
5. Clothing of the desert people.
6. Life in an oasis.
7. Occupations in the desert.
8. Other great deserts of the world.

EXERCISE

1. How is the Sahara desert reached from New York?
2. On what continent is this desert located? Point in that direction.
3. How large is the Sahara desert? Describe it. Tell about the population in this region.
4. Tell two ways in which the Sahara desert is different from the Amazon basin.
5. In what ways does the Sahara differ from the Arctic region?
6. Tell how travel in the Sahara desert is different from that in the United States. In the Amazon basin. In the Arctic region.
7. Why is the camel well fitted for life on the desert?
8. Why are guides necessary in traveling through the desert?
9. Is it necessary to carry water when traveling in the desert? Why?
10. How does the temperature of the desert differ by day and by night?
11. Describe a sand storm.
12. What are sand dunes? Tell one odd fact about the sand dunes of the Sahara.
13. Tell about the vegetation in the desert outside of the oases.

14. What dangers threaten caravans in the desert?

15. What flocks are kept by the desert dwellers? Tell about the life of the shepherds.

16. Describe the dress of the desert people.

17. What is an oasis?

18. How is the water in an oasis used?

19. What are the chief industries of the oases?

20. Describe the houses of the oases.

21. Name the oases through which you passed on your trip through the Sahara. Tell something about each.

22. How long was your trip? Compare this distance and the time it took to cover it with the distance and time you traveled in your trip across the United States on the Lincoln highway.

23. Name four other great deserts of the world and tell where each is located.

24. Would you rather live in your own country or in the Sahara? Give several reasons for your answer.

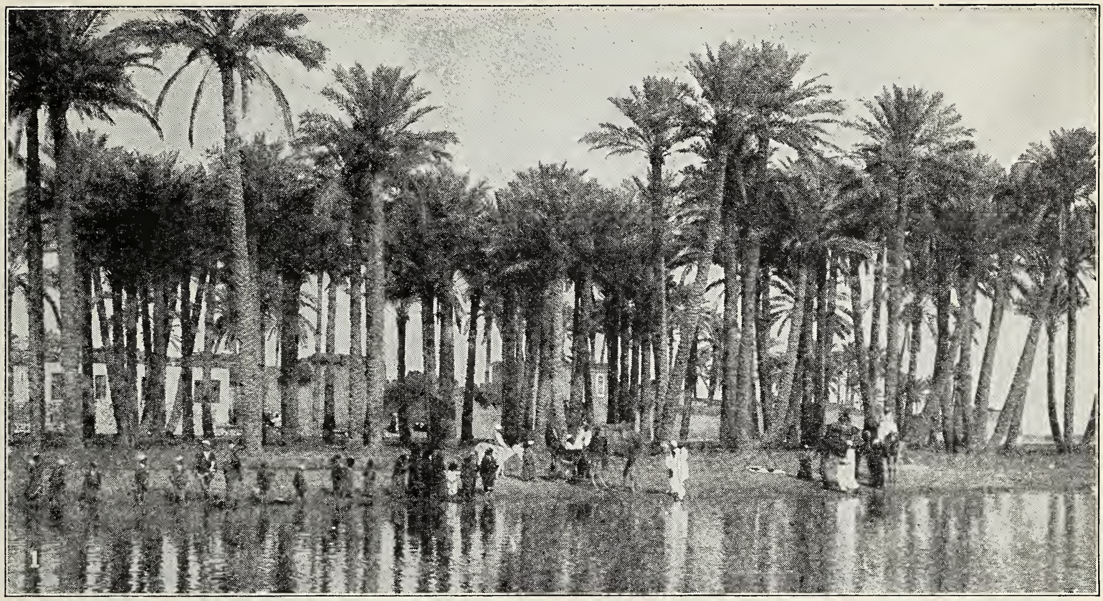
CLASS PROJECT

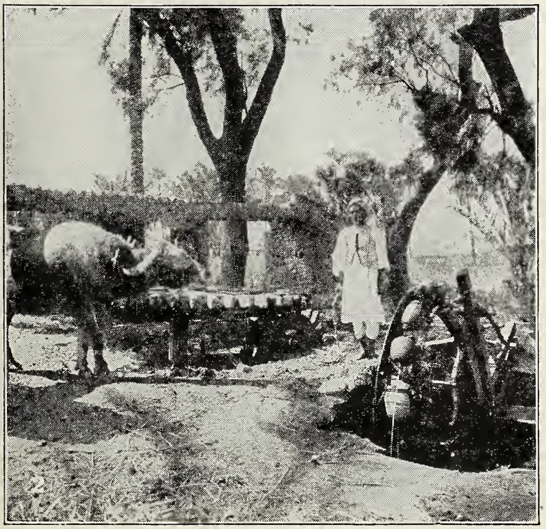
Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in the desert and life in the other regions already studied.

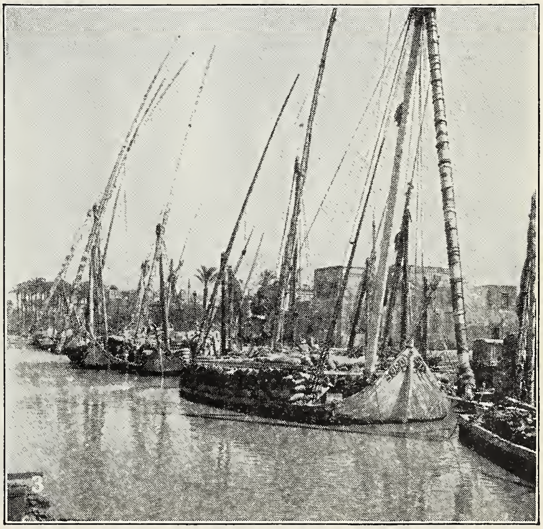
THE SAHARA DESERT

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products

LIFE ALONG THE NILE RIVER







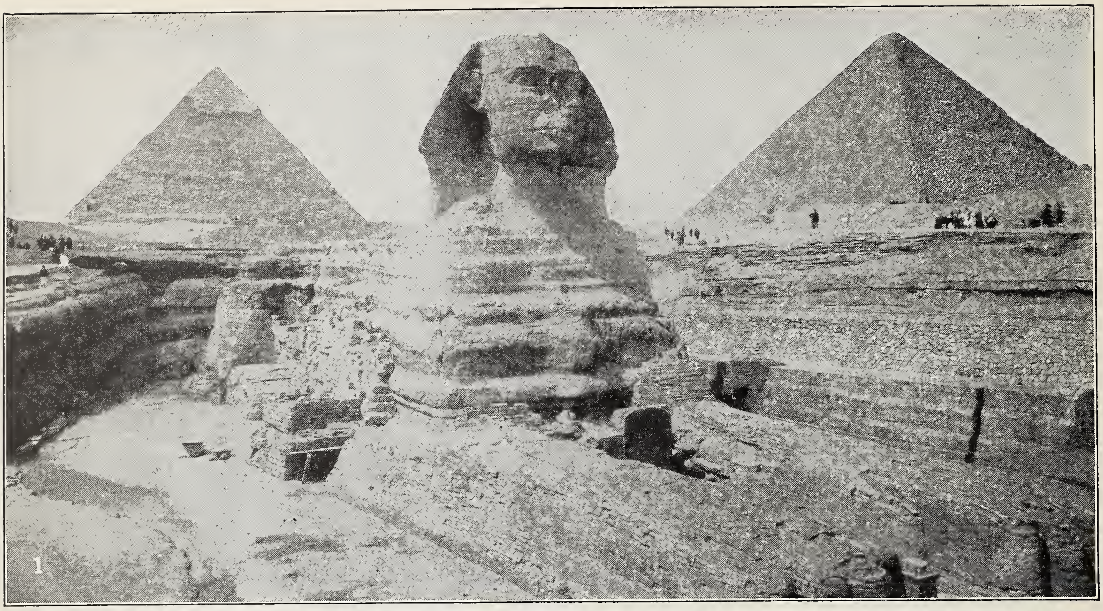
(1) (2) (3) Publishers' Photo Service, N. Y.

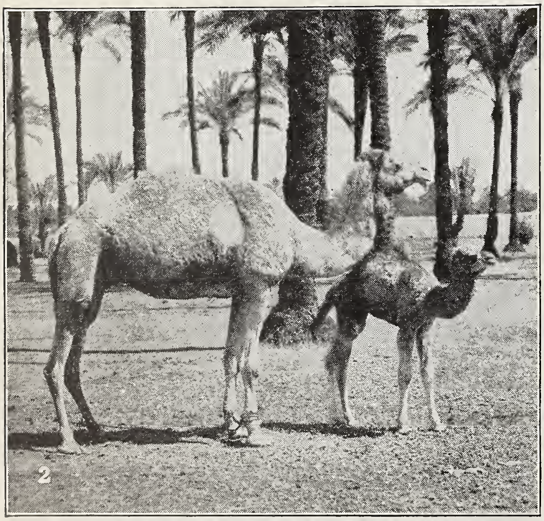
1. A village on the Nile. The people of the Egyptian villages are almost all farmers. They live in houses built of bricks made from clay and dried in the sun. The roofs are covered with straw or palm leaves held together by mud. Each day the farmers go out to work in their fields near the village. Nearly every village has its date-palm trees. They give a most welcome shade from the hot sun and furnish dates for food.

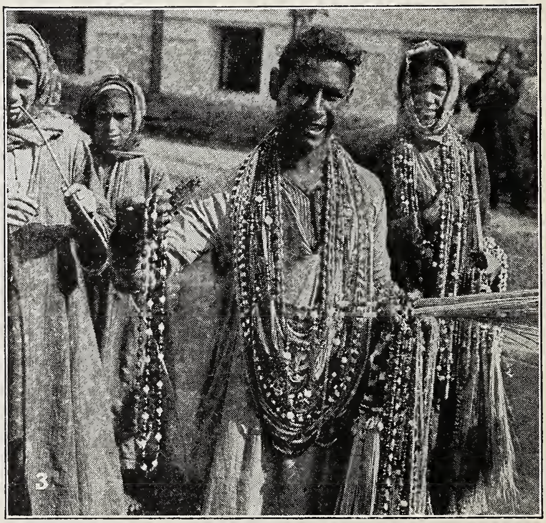
2. A water buffalo turning a wooden irrigation wheel. Egypt is a dry country and would be all desert land if it were not for irrigation. Here water is being raised from a well to moisten the fields. The buffalo is hitched to the large wheel at the left, and as he walks round and round he turns the wheel. The spokes of this wheel fit into the notches in another wheel. The second wheel turns a third wheel with jars on it. The jars dip into the well and come up filled with water, which is emptied into a ditch on the farther side. The water flows to the fields through many connecting ditches.

3. Egyptian boats on the Nile. For hundreds of years boats like these have been used on the Nile. They are low and flat, and though they are small they carry large loads of freight. Some of the boats are piled with bales of cotton and others with bags of grain. They have come down the river to the seacoast, where their cargoes will be loaded onto ocean steamers to be shipped away.

SIGHTS A TRAVELER SEES IN EGYPT







(1) (2) (3) Publishers' Photo Service, N. Y.

1. The great Sphinx and the pyramids. The Sphinx lies in the desert guarding the entrance of the Nile valley. In the many, many years since it was built, sand blown by the wind has worn away much of its rock and even partly covered the huge figure. Not long ago it lay half buried in the desert, but now the sand has been removed from around it. The pyramids in the background are tombs of old-time kings of Egypt. It took many years to build them. But they were made so well that today they look much as they did nearly 5000 years ago when they were finally completed.

2. A mother camel and her baby. The baby camel is only a month old, and its legs are still weak. But it is growing fast. Camels are very important to the people of Egypt and to all desert dwellers, because they can go for a long time without food or water. When camels drink, they fill their stomachs with enough water to last several days, and when food is scarce they live on the fat stored in the humps on their backs. Besides their camels, the Egyptians keep donkeys and buffaloes, which they use to help draw water and plow the fields.

3. A walking gift shop in Cairo. Cairo is a city of over a million people. Tourists visit its fine public buildings, its famous museum, and most of all the quaint crowded part of the city where the native Egyptians live. This boy has necklaces of brightly colored beads to sell to tourists.

EGYPT

A DESERT MADE PRODUCTIVE BY A GREAT RIVER

When crossing the miles and miles of hot sandy wastes of the Sahara desert, how we longed for rivers and lakes, like those so common in our own country. How we welcomed the oases, with their date palms and growing crops moistened from wells of clear, cool water!

The dry Sahara is part of a long desert belt which reaches across northern Africa and on across Asia. Lying in this belt is the hot, dry country of Egypt, in northeastern Africa. But though Egypt is a desert country, it has some of the most fertile land in the world. The reason is that through Egypt, from south to north, flows the Nile river.

THE RIVER NILE

The Nile is one of the longest rivers in the world. Rising in a mountain lake of eastern Africa, far to the south of Egypt, it flows swiftly down between the mountains, and then more slowly through the plains until it reaches the desert. Here it twists its way through a long, dry valley, and finally empties into the Mediterranean sea.

Due to the lack of rain in this valley, the Nile has no tributaries on the last half of its journey to the sea. But, as it winds its way through the mountains, several large streams flow into it. They come from the fertile highlands of Ethiopia to the east, and from those of central Africa to the west of the Nile. During part of each year these regions have frequent and heavy rains. The rains wash the rich soil into the streams, which carry it along in their swift race to the Nile.

THE NILE VALLEY

Down the Nile the muddy water rushes until it reaches the valley in Egypt, where it overflows the river banks and floods the land on both sides. Gradually the mud, brought from the highlands, settles, and when the river goes down again this rich soil is left in the valley.

These floods have been happening year after year, for thousands of years, until today there is anywhere from thirty to sixty feet of rich soil in the lower valley of the Nile. Fine crops are grown on this land. Beyond the valley, where the flood waters do not reach, is desert sand and rock.

THE DELTA OF THE NILE

The mud which the river does not deposit in the valley is carried along to the sea, where it has formed a wide triangular plain, or delta, at the mouth of the Nile. In this delta the Nile divides into many streams, and between these streams long narrow strips of land reach seaward. This gives the appearance of an open fan. As time goes on, more mud is added, and the delta continues to grow longer and extend farther out into the Mediterranean. The delta is now more than one hundred miles long. On its rich land grow abundant crops.

IRRIGATING THE SOIL

While the soil of the Nile valley is very fertile, it would soon dry out from the hot winds of the desert if it were not kept moist. Thousands of years ago the Egyptians learned to use the yearly flooding of the Nile to keep their lands watered. They built great pools, or reservoirs, to catch and hold the water when the floods came. When the floods went down and the land began to dry out, they let water from the reservoirs run into ditches which they had dug in the fields. The fields soaked up the water, and in this way the land was kept moist. This way of keeping the ground moist is called irrigation.

In recent years, dams have been built

along the Nile. One of them, at Aswan, is among the largest in the world. These dams hold back part of the water during flood time. When the river is low, gates in the dams are opened and the water is let out into irrigation ditches as needed. These gates are near the foot of the dam, so that the mud which has settled flows out with the water and helps keep the land fertile.

The Egyptians have other ways of irrigation. Here and there along the river bank one sees a camel, a donkey, or a buffalo harnessed to a large, wooden water wheel. As he travels round and round a circular path, the wheel is kept turning. Buckets on the rim of the wheel dip up water from the river and pour it into troughs, from which it runs into the irrigation ditches. In some places the water is dipped up in buckets by hand, and the buckets are passed to men higher up on the bank, who pour the water into the ditches. These methods were used by the early Egyptians, and are still in use today.

WHAT WATER MEANS TO LIFE

Egypt shows us how important water is to human life. A few miles out in the desert, where there is no water, few plants can grow, and no one lives. Along the valley of the Nile, where there is water, crops are rich and abundant, and the land supports many people. There are numerous villages, and some cities and towns. If it were not for the life-giving waters of the Nile, the valley would be a desert waste. So you see that the very lives of the Egyptians depend on the great river. No wonder they call it "Father Nile"!

BUILDINGS OF THE EARLY EGYPTIANS

From very early times the Egyptians have been civilized people. Scattered throughout the Nile valley are massive ruins of beautiful temples built by them thousands of years ago. The huge, tall, round stone columns that once held the roofs are still standing. Travelers of today visit the pyramids, the tombs of the ancient Egyptian kings. These are enormous stone buildings, square at the bottom and pointed at the top, with triangular sides. Then there is the Sphinx, a giant stone statue of a creature with the body of a lion and the head of a man. The Sphinx is nearly two hundred feet long and over sixty feet high, and all except the paws is carved out of solid rock.

EGYPT TODAY

If you travel along the Nile today you will see many villages in which the peasants, or farmers, live. Their houses are mud huts or are built of sun-dried brick made from clay. The low roofs are of straw or palm leaves plastered with mud. For the most part, the houses have but one room. Inside are a few mats on which to sleep, and some earthen jars and metal pots. Cooking is done out-of-doors over a small burnt-clay stove. The food usually consists of vegetables, eggs, dates, and little cakes of coarse bread made from corn, rice, or wheat. Almost every village has its date-palm trees.

The farmers keep a few sheep, goats, and chickens. Donkeys, camels, and buffalo are used to carry goods, and to draw water and plow the fields.

The farms are outside the villages. Cotton, corn, rice, and sugar cane are grown in the summer. In the winter, wheat, barley, and vegetables are raised. But seasons do not mean much to the Egyptian farmers, for it is warm the year round. It is the water from the Nile that means everything, for without it there would be no crops.

The peasants dress very simply. The men wear short cotton trousers which reach halfway below the knee. Over these they have a long robe or gown of the same material. A felt cap, with sometimes a cloth twisted about it, is worn on the head. The women wear long, loose gowns. These, too, are of cotton, and are usually white or blue, as are those of the men. The women wear scarfs over their heads.

CLIMATE

Egypt lies partly in the Hot belt, and partly in the Temperate belt. Even in the northern section the summers are hot and the winters very mild, so that heavy clothing is seldom needed. While in most of Egypt the sun is never directly overhead, it is higher than it is in most of our country, and the hours of day and night are more nearly equal.

CAIRO

The cities of Egypt are in some ways like those of our country, but in other ways are vastly different. The capital city, Cairo, is on the Nile, where the delta begins. It is the largest city of Africa. Over a million people live there. In what is called the foreign quarter of the city are the palace of the king of Egypt, the government buildings, and the homes of the wealthy Egyptians. In this part of the city you will find the modern hotels and shops.

Here, too, is a great museum, in which are stored ornaments, jewels, garments, and furniture of the early Egyptians. What is still more wonderful is that the museum holds the bodies of their kings who ruled Egypt many hundreds of years ago. The Egyptians treated these bodies with spices and ointments to preserve them. They are called mummies.

The streets of the foreign quarter are wide and paved, and there are beautiful parks. One sees people from many lands—Orientals, or people from the far east, in strange colorful dress, Egyptians, Arabs, Europeans, Americans. The better class of Egyptians are richly dressed, and the women wear veils over their faces when they appear in public.

In the native quarter, tiny shops line the narrow, twisting, unpaved streets. At the shop entrances sit the merchants, making the articles they sell. Perhaps they are making copper pots, and then what a noise their hammering makes! There is every variety of merchandise—beaded and embroidered slippers and shoes, rugs, watches, jewelry, perfumes, spices, books, leather goods, and copper articles. The streets are thronged with people on foot or on donkeys. Sometimes one sees a horse or a camel.

About nine-tenths of the natives of Egypt are of the Mohammedan faith. They worship a god whom they call Allah. Their churches, or mosques, are large beautiful buildings with rounded domes. From their roofs rise tall, slender towers, each having a small door and balcony at the top. These are the minarets, from which the Mohammedan priests call the people to prayer.

I SHOULD REMEMBER

1. Egypt is a hot, dry country in northeastern Africa. It lies in a great desert belt which extends across northern Africa and into Asia. Through Egypt flows the Nile river, one of the longest rivers in the world.
2. The Nile rises in a mountain lake of eastern Africa and flows northward through plains and a desert valley to the Mediterranean sea.
3. Large tributaries flow into the upper Nile. They come from the highlands of Ethiopia and central Africa, where there are seasons of heavy rainfall. No streams flow into the Nile on the last half of its journey to the sea.
4. Each year, during the rainy season in the highlands, the lower Nile overflows its banks, covering the surrounding country with a layer of rich soil brought down from the highlands. This soil is very good for growing crops.

5. The soil brought down by the Nile has formed a delta at its mouth. The land in the delta is very fertile, and is used for growing crops.

6. For thousands of years, the Egyptians have stored flood water in great pools, or reservoirs, and used it to irrigate the land. In later years, water for irrigation has been stored by building dams along the Nile.

7. Egypt shows us how important water is to human life. Along the Nile, where there is water, crops grow well and the land supports many people. No one lives in the sandy wastes beyond, where no plants can grow because there is no water.

8. From very early times the people of Egypt have been civilized. All through the Nile valley are great ruins of wonderful temples built by the early Egyptians. Besides these there are the pyramids, and a giant stone figure known as the Sphinx.

9. Along the Nile are the many villages of the peasants, or farmers. They live in mud huts or in houses made of sun-dried brick, which usually have but one room. Cooking is done out-of-doors. Their food consists of coarse bread, vegetables, eggs, and dates.

10. The Egyptian farmers keep a few sheep, goats, and chickens. Donkeys, camels, and buffalo are used to carry goods, and to draw water and plow the fields.

11. Since the climate is always warm, crops are grown the year round. Cotton, corn, rice, and sugar cane are grown in summer. The winter crops are wheat, barley, and vegetables.

12. The peasants dress in simple cotton clothes. The better class of Egyptians are richly dressed.

13. Egypt is partly in the Temperate and partly in the Hot belt. Even in northern Egypt the summers are hot and the winters very mild.

14. Cairo is the capital of Egypt and the largest city in Africa. It is on the Nile river, at the beginning of the delta.

SOME THINGS TO TALK ABOUT

1. Why the Egyptians call the great river "Father Nile."
2. The delta of the Nile.
3. How Egypt shows the importance of water to human life.
4. Crops of the Nile valley.
5. The ancient Egyptians and their buildings.
6. The city of Cairo.

EXERCISE

1. Where is Egypt? Point in that direction.
2. In what belts does Egypt lie?
3. In what important way does Egypt differ from the Sahara?
4. Where does the Nile river rise? Into what does it empty?
5. In what direction does the Nile flow? The Amazon?
6. Tell about the tributaries of the Nile.
7. How was the delta of the Nile formed?
8. How does the Nile help the Egyptians who live along its banks?

9. Tell three means used by the Egyptians to get water to moisten their land.
10. How is the water carried to their fields?
11. How does Egypt show the importance of water to human life?
12. Tell briefly about the ancient ruins of Egypt.
13. Describe the houses of the Egyptian farmers.
14. What crops do the farmers raise?
15. How do the Egyptian peasants dress?
16. Describe the climate of Egypt.
17. What is the capital city of Egypt? Where is it located?
18. Name several of the sights of Cairo.

CLASS PROJECT

Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in Egypt and life in the other regions already studied.

EGYPT

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products

LANDS OF THE BLACK PEOPLE OF AFRICA

GRASSLANDS AND FORESTS

THE GRASSLANDS

Along its southern edge the desert land of Africa gradually slopes up, and loses itself in the grassy plains which lie beyond. Waving in the light breeze, the grass of the plains extends on and on. Only here and there is its surface broken by low, thorny trees. This country is known as the Grasslands of Africa. From east to west they are as wide as our own country. In size they are about two-thirds as large.

The Grasslands lie wholly in the Hot belt. They have only two seasons—the rainy season and the dry season. During the rainy season the air is moist. The sun is almost directly overhead and the heat is terrible. Heavy showers fall daily and the streams overflow. The grass grows fast. Then follows the dry season. The sun is now farther south in the sky. Dry winds blow in from the hot deserts to the north. No more rain falls. Soon the smaller streams dry up, the ground becomes caked and hard, and the grass turns to hay as it stands.

THE PEOPLE OF THE SUDAN

The Grasslands are also called the Sudan, which means "black people." Most of the people of the Grasslands are Negroes, who live in tribes. Each tribe has its king, or chief. The tribes which live on the northern edge of the Grasslands, near the desert, are nomads, or wanderers. With their flocks of goats, sheep, and cattle, they move from place to place in search of good pasture land. Their principal foods are milk and meat, which they get from their flocks. Many of these tribes raise camels and sell them for the use of desert travelers.

Because the climate is so hot, the natives need very few clothes. Strips of cloth worn about the waist or aprons or petticoats of cowhide or grass are all they wear.

Farther south, the Grassland Negroes are mostly farmers. They live in little villages of houses with mud walls and grass roofs. On the land around the villages the natives raise beans, corn, pumpkins, peanuts, and two plants called the durra and the cassava. The seeds and stalks of the durra and the cassava are ground into flour for bread. The gardens supply most of the food for the natives, for they seldom eat meat. They raise few animals, and not many of the wild beasts of the Grasslands make really good food.

GRASSLAND ANIMALS

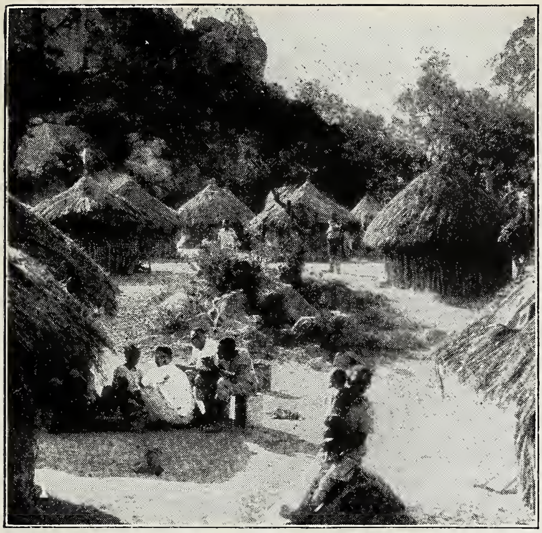
How you would enjoy seeing the many animals which live in the Grasslands! There are the zebras, which look like small horses with stripes of black and white. In far greater numbers are the antelopes. There are many kinds of these graceful deer-like animals. Some are as large as cows, and others are the size of a small dog.

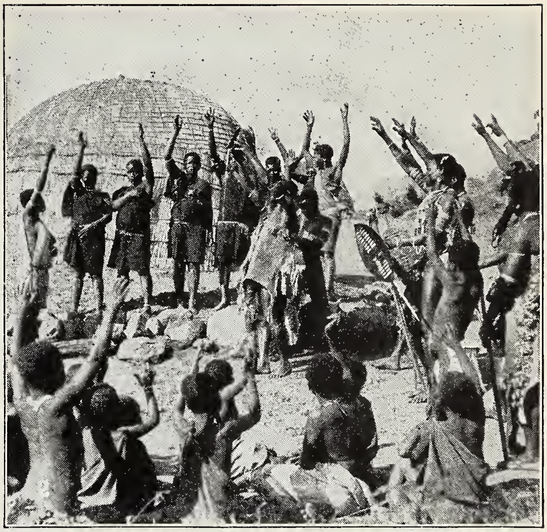
The zebras and the antelopes are very shy, and it is hard to get near them. Sportsmen come to the Grasslands to hunt the antelopes and other Grassland animals.

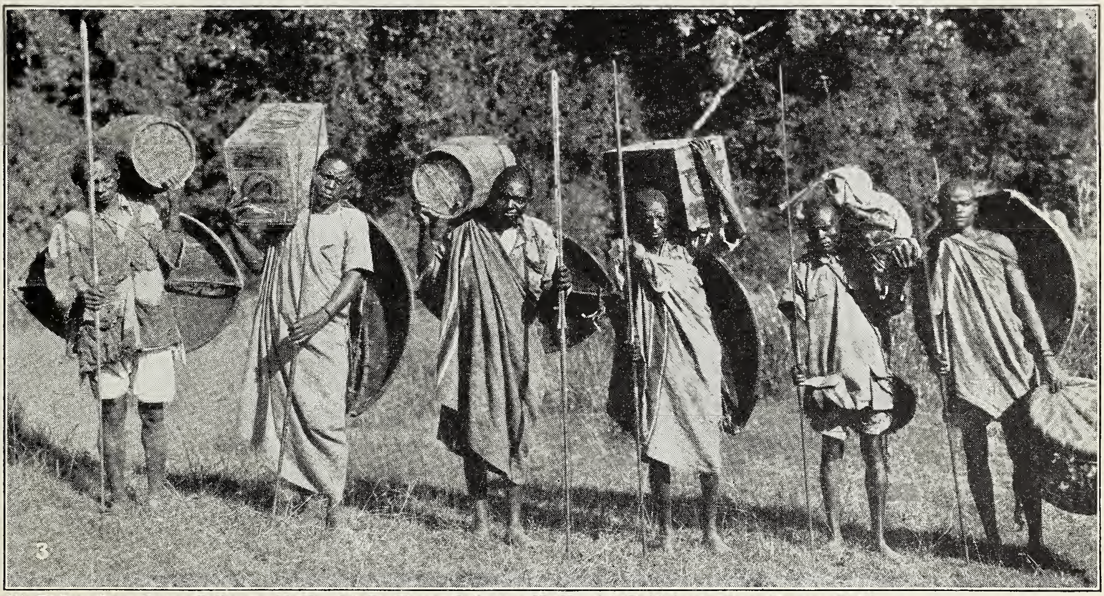
The long-necked, spotted giraffes are, perhaps, the oddest looking of the Grassland animals. They are so tall and their necks are so long that they can reach the topmost branches of small trees.

The lion, the king of beasts, prowls through the Grasslands. He kills antelopes and zebras, and attacks the natives' herds of cattle. He even spreads terror among the natives themselves, for he is sometimes a man-eater as well as an animal killer. In

LIFE IN AFRICA'S GRASSLANDS







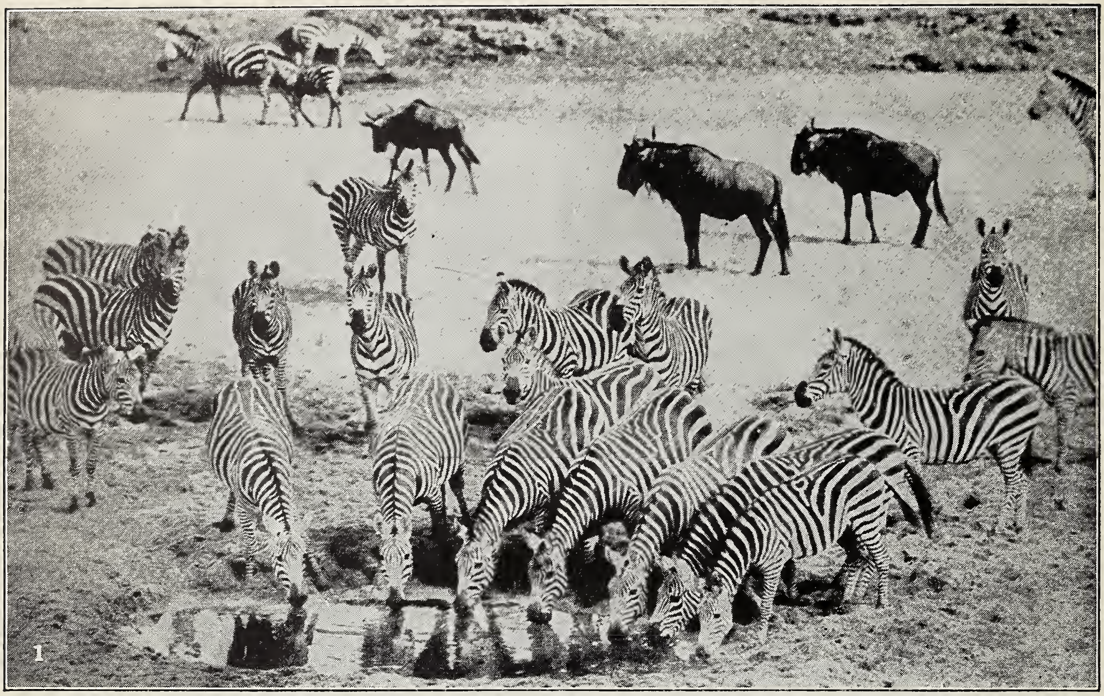
(1) DeCou, from Ewing Galloway, N. Y. (2) By Ewing Galloway, N. Y. (3) Publishers' Photo Service, N. Y.

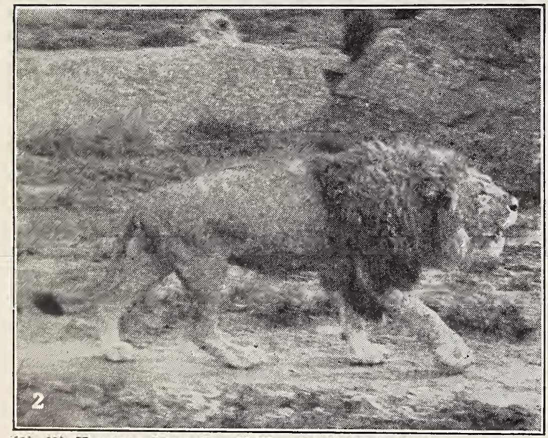
1. A village in the southern Grasslands. These Negroes live mostly by farming. They raise a few animals, and plant their small gardens close to the village. The walls of their huts are made of mud, which bakes almost as hard as brick in the hot African sun. Sticks on the outside are used to strengthen the walls. The roofs are made of grass. The natives are wearing clothes given them by white men.

2. Praying for rain. These Negroes belong to a Grassland tribe. They believe that spirits control all things, and they are praying to the rain spirit to send the water which their fields and gardens need. They live near white traders, and most of them are wearing red or white cotton cloth which they got from the white men. Some of them wear the skins of wild animals which they killed. The hut is made of grass tied onto a framework of wood.

3. Native porters carrying loads in the eastern part of the Grasslands. White men who like to hunt lions and other game come to the Grasslands to hunt the many wild animals there. The natives act as their guides and carry the food and camping supplies. These strong savages are also carrying their long spears and their heavy shields made of the thick skins of the rhinoceros or the hippopotamus, for they must protect themselves from the animals. One of the most dangerous beasts of the Grasslands is the lion. Lion hunters must have very good aim or they may not live to tell the story of their hunting trip.

ANIMALS OF THE AFRICAN GRASSLANDS





(1) (3) Keystone View Co., N. Y. (2) J.V.D.S. Photo.

1. Zebras and antelopes at a water hole. Water is not plentiful in the Grasslands, and animals of many kinds come to drink at this spring. The zebras are like small horses, except for their striped skins. The homely animals behind the zebras are gnus. A gnu is a kind of antelope, or deer-like creature. It has a head like an ox, a body like a horse, and legs like an antelope. There are many other kinds of antelopes in the Grasslands, most of them more graceful and more beautiful than the gnu.

2. A lion. Lions are very large members of the cat family. A full-grown lion may be ten feet in length and may weigh as much as four hundred pounds. Lions usually hunt at night and rest during the daytime. Sometimes they hide in the tall grass near a water hole, ready to rush out and kill a zebra, antelope, or giraffe which comes to the water hole to drink. Lions are deadly hunters. They seldom miss their prey.

3. Giraffes in the Grasslands. These queer animals are so tall that they can eat the leaves and buds from the branches of the trees. Some are almost as tall as a two-story house. The strange markings of their skins look like shadows cast by the leaves of trees. When giraffes stand among the trees the lions and their other enemies cannot see them easily.

spite of their fear, the natives hunt the lions with spears and lances.

THE RAIN FORESTS AND THE CONGO BASIN

South of the Grasslands are dense jungle forests. The Equator passes through the center of this region. The air is hot and moist, and it rains so often that these forests are called "rain forests." The rain forms many streams. Some of them flow into the Nile. But most of them flow west and feed the Congo, another great river of Africa, which flows southwest into the Atlantic ocean. The region drained by the Congo and its tributaries is called the Congo basin.

The Congo basin is half as large as our United States. It is much like the Amazon basin, only it is not so hot. This is because the Congo basin is on a high plain, or plateau, where the air is cooler than in the low Amazon basin.

ANIMAL LIFE IN THE JUNGLE

The jungle growth along the Congo is so thick that the sunlight rarely reaches the ground. A constant humming sound tells us there are many insects here. There are poisonous flies and mosquitoes whose bites cause sickness and disease. Huge ant hills house millions of ants—white, red, and black. The white ants are very destructive, eating almost everything. One kind of black ant is very dangerous. They travel in swarms, and fall upon mice and snakes and any small animal that crosses their path. Even the large animals fear them and keep out of their way.

Then the animals of the jungles! In the brushlands and jungle clearings roam herds of enormous elephants. They are a terror to the farmers of the jungle, because they like the garden plants and often trample down and ruin what they do not eat. The natives hunt them for their long, white tusks of valuable ivory, and for their meat. Elephant steak, so the natives think, is delicious.

Leopards—beautiful spotted animals, like immense cats—prowl through the undergrowth or leap from the low branches of trees to seize and devour passing animals.

Africa is also the home of the rhinoceros, a huge, black creature with a big body and short, heavy legs. It has a thick neck, and a long, ugly looking head. Its eyes are small and set far down near its nose. Two thick, ugly horns grow, one behind the other, from the top of its nose. When attacked, the rhinoceros lowers its head and rushes forward. With its horns it rips open its enemies, and then tramples them under its heavy feet. The rhinoceros' skin is so tough that an ordinary bullet will not pierce it.

Along the rivers are the hippopotamus and the crocodile. The hippopotamus is a large animal somewhat like the rhinoceros, but with no horns on its nose. It is very near-sighted. It lives in herds and spends much of its time in the water, coming out mostly at night to feed on plants near the shore. When alarmed, the hippopotamus dives under the water and swims for some distance before it comes up again. The natives kill it for its meat.

The crocodile is much like the alligator of our southland. It lives mostly in the water, and gets its food by seizing and eating animals which come down to the shore to drink.

The tree animals are interesting, too. The gorilla, a monkey as large as a man, makes its home in the forests. Monkeys and baboons jump from limb to limb and chatter madly. Parrots and large parrot-like macaws flutter and squawk among the branches. There are many other birds with brilliant plumage, and there are gorgeous butterflies.

The British government has set aside a part of eastern Africa as a large park where hunting is forbidden. Good roads run through the park, and visitors who drive through in automobiles can see many kinds of wild animals along the roads. There is little danger from the animals if people remain in their cars and keep the windows closed.

NATIVES OF THE FORESTS

The natives of the forests along the Congo and the upper Nile are Negroes much like those of the Grasslands. In villages deep in the forest are their low huts, which have sloping, grass-covered roofs. These natives chop down trees and clear the land around their homes in order to raise vegetables like their northern neighbors. Potatoes, grains, rice, and sugar cane are their most important crops. Bananas and other fruits which grow wild are part of their food. Sometimes they kill a jungle animal, and eat its meat.

The natives live busy lives. The women carry the firewood, cook the meals, and care for the crops. The men and boys fish, hunt, gather fruits and wild honey, and make tools, knives, and weapons from iron.

Some of the natives weave grass mats and clothing. Some make earthen bowls. Besides earthen bowls the natives use the hard shell of a fruit called a gourd as a cup or dipper.

Sometimes the whole village goes into the forest to hunt. That, perhaps, is the busiest time of all. For, while some hunt, others must cut up the meat and smoke it in order to keep it. Even the little chaps gather wood and help keep the fires going.

Bows and arrows and spears of their own making, or rifles obtained by trade, are the weapons used. To capture the larger, fiercer animals, the natives sometimes dig deep pits which they cover with light branches and leaves, so that the covering looks like the surrounding ground. When an animal steps on this covering, it gives way and down he goes to the bottom of the pit, from which he cannot escape.

THE PYGMIES

Probably you would find the Pygmies the most interesting of the Negro tribes of the jungle. They are very, very small people. A full-grown Pygmy man is only about four feet tall. How does that compare with your height?

Because they are small, the Pygmies find it easy to make their way through the thick jungle. They are great hunters. Armed with spears, and with bows and poisoned arrows, they are not afraid to attack the fiercest jungle creatures. Wild fruits, roots, and meat are their chief foods. In exchange for vegetables they sometimes trade ivory and other things with the Negro farmers.

Travel in the Congo basin is mainly on foot over narrow, winding paths through the forests. Native canoes are used on the streams.

THE WHITE MEN IN AFRICA

It is only within the last century that white men have gone into central Africa. Before that time, the Negroes were savage and uncivilized. The tribes were continually fighting against each other. Many of them were cannibals, eating the flesh of their captives.

At first, white men went there only for slaves and ivory. Now, more and more, the Negroes are trading the products of the forest with the white man. They get no money, but are paid in cotton cloth, tools, weapons, dishes, beads, and other things they need or like.

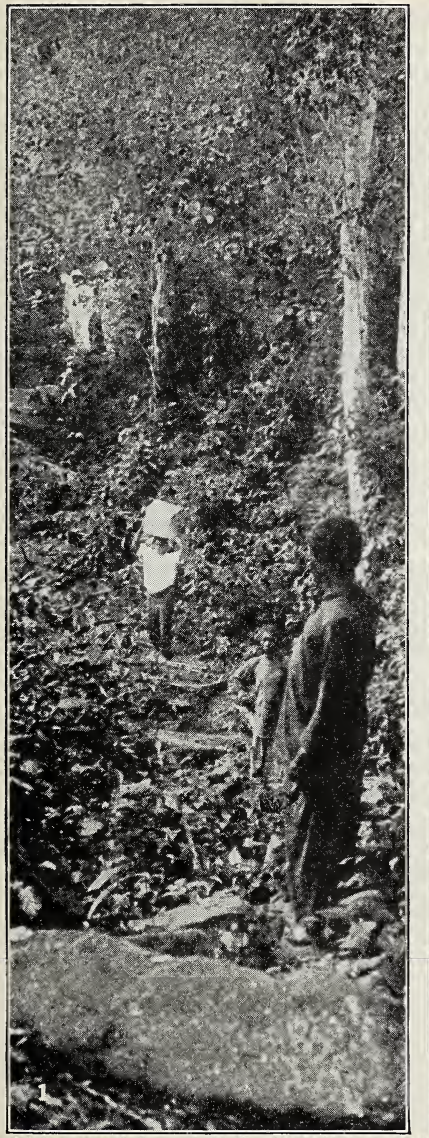
Rubber trees grow wild in the Congo region, as in the Amazon basin. Certain kinds of trees yield a gum which is used in making varnishes. Palm oil and palm nuts are other products.

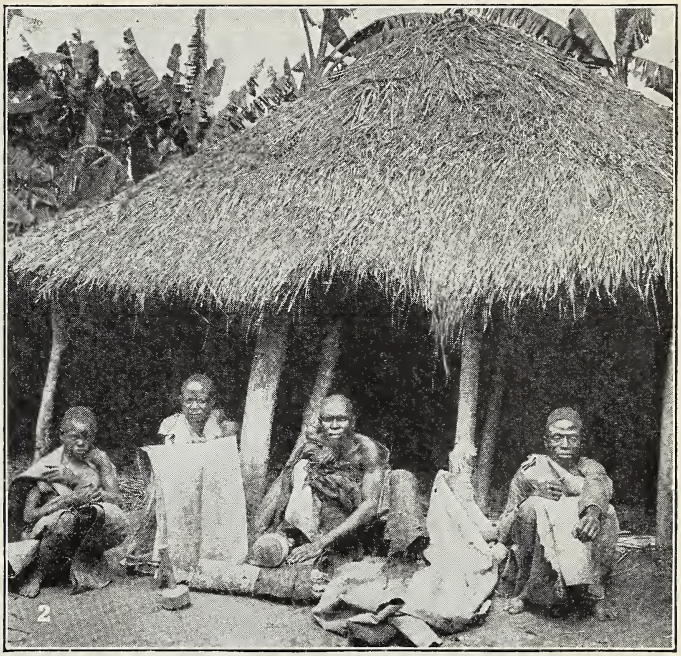
Plantations of cotton, rubber, peanuts, cacao trees, from which the cocoa bean is obtained, and other plants which grow well in a hot moist climate have been started in parts of this region by Europeans. The fields are cultivated by the natives under the direction of white men.

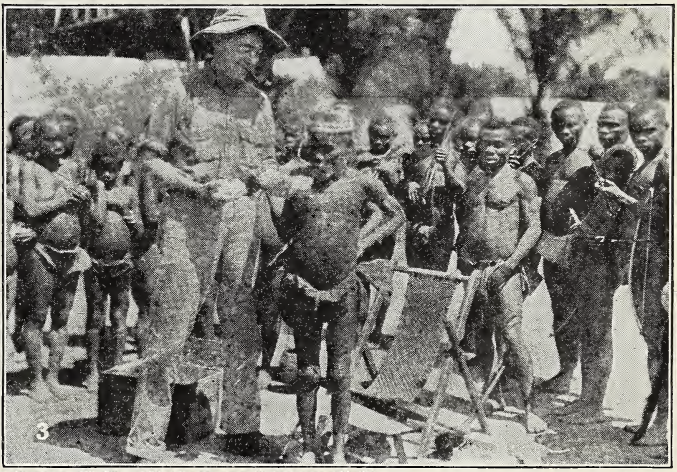
The natives also act as luggage bearers, or porters, carrying loads of goods to the shipping points. The native porters easily carry very heavy objects for many miles.

Year by year central Africa is becoming more civilized. In other parts of the conti-

JUNGLE TRIBES OF AFRICA







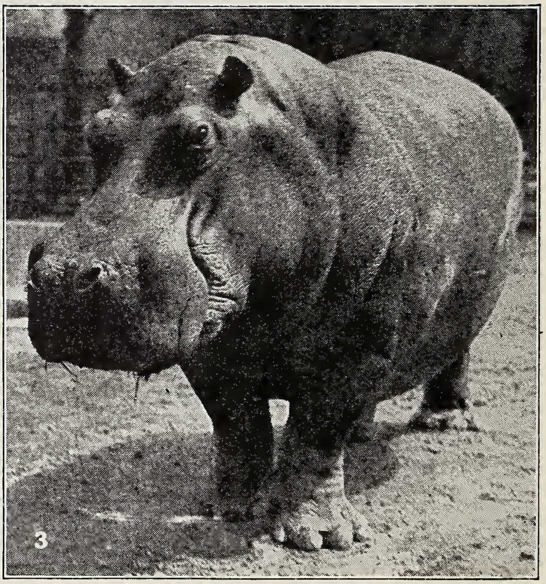
(1) Keystone-Underwood, N. Y. (2) Publishers' Photo Service, N. Y. (3) By Ewing Galloway, N. Y.

1. A path in the dense forests of the Congo basin. On both sides of the path is jungle growth of trees, bushes, and vines so thick that it would be very hard to go through it. Among the useful forest plants of the Congo basin are rubber trees and palm trees. White men are clearing parts of the forest and have started plantations of cotton, rubber, peanuts, and other crops which grow well in the hot climate. Along the path in the picture we see native servants of a white plantation owner.

2. Making bark cloth. Most African natives get cotton cloth from traders, but some tribes still make cloth from the bark of a certain tree. The bark of this tree has long, soft fibers. The natives cut the bark from the tree and soak it a long time. Then they lay it on a log and beat it with a mallet until it is of the thickness they want and soft enough to use.

3. An American traveler in the Congo basin, visited by a Pygmy tribe. The Pygmies are a shy people, but their curiosity has brought this tribe from the forest to see the wonders of the white man's camp. The white traveler is not a very tall man, but the Pygmies do not even reach to his shoulder. Pygmies are the smallest race of people in the world. They live deep in the African jungles and hunt the wild animals with poisoned arrows. They are skilful bowmen and can kill the largest and fiercest beasts.

JUNGLE ANIMALS OF CENTRAL AFRICA



(1) (2) (3) By Ewing Galloway, N. Y.

1. A herd of elephants feeding. The African elephant is the largest land animal in the world. The natives of Africa do not tame elephants, as some of the natives of southern Asia do. African elephants are useful to men only for their tusks and their meat. The tusks are of ivory, and some of them are more than six feet long. The natives often capture elephants by digging pits and then covering the pits with branches and leaves. When an elephant steps on the branches it plunges into the pit, from which it cannot escape.

2. The rhinoceros. This great ugly creature makes its home in the Congo jungles and on the Grassland plains. It has two horns on the front of its head, which it uses when attacked. Lowering its head, the beast rushes forward and rips its enemy open and then tramples it underfoot. Because the rhinoceros is such a dangerous animal, it is hunted by white men for the excitement of the sport.

3. An African visitor in our country. This hippopotamus lives in the zoo at Philadelphia, but it was born in the Congo basin in the Hot belt of Africa. The hippopotamus is next in size to the elephant among land animals. Although the hippopotamus is called a land animal, it spends most of its time in the water. Like the elephant and the rhinoceros, it does not eat the flesh of other beasts but lives on grass and the leaves of plants.

nent steamships run on the larger rivers. Railways are increasing and going farther and farther in from the oceans. There are busy cities along the coasts. White men are teaching the natives good ways of farming. Africa was once called the Dark Continent because little was known about it. Now it is important in the trade of the world.

I SHOULD REMEMBER

1. South of the Sahara in the Hot belt are great grassy plains called the Grasslands. They cover an area two-thirds as large as our country.
2. The Grasslands have two seasons—a rainy season, and a dry season. In the rainy season the heat is terrible, the air is moist, and the heavy rains make the streams overflow. In the dry season there is no rain, and hot desert winds dry up the streams and turn the grass to hay.
3. Many animals live in the Grasslands. There are great herds of zebras, antelopes, and giraffes. The lion is also a native of the Grasslands.
4. The Grasslands are also called the Sudan, meaning "black people." Here live many Negro tribes. Those nearest the desert are nomads, or wanderers. They raise camels, goats, sheep, and cattle. Because of the heat, they wear little clothing.
5. Farther south, the Grassland Negroes are farmers. They live in grass huts, and raise beans, corn, pumpkins, and peanuts. They also grow two plants, durra and cassava, from which they make flour for bread.
6. South of the Grasslands, on a high plateau along the Equator, are the African jungles. It rains here so often that the forests are called "rain forests." Some of the streams of this region flow into the Nile. Others feed the Congo river, which flows southwest to the Atlantic ocean. The area drained by the Congo river is called the Congo basin. It is half as large as the United States.
7. The Congo basin is much like the Amazon basin. It is a land where insects swarm.
8. Among the animals of the jungle are the elephant, the leopard, the rhinoceros, the hippopotamus, the crocodile, the gorilla, the monkey, and the baboon. There are many parrots, macaws, and other brilliantly colored birds.
9. The natives of the Congo region live much the same as those of the southern Grasslands. They clear the land around their homes and raise potatoes, grains, rice, and sugar cane. The natives weave grass mats and clothing, and make earthen bowls, and tools and weapons of iron. They use bows and arrows and spears and rifles in hunting, and trap animals in deep pits.
10. The Pygmies are a race of very small Negroes, living in the dense jungle. They live mostly on wild fruits and roots, and by hunting.
11. It is only within the last century that white men have gone to central Africa. Today the white man is clearing the jungle and growing cotton, rubber, and other valuable crops. The products of the jungle are shipped to the markets of the world. They include palm oil, cocoa beans, and rubber.

SOME THINGS TO TALK ABOUT

1. The Grasslands of Africa.
2. Wild animals of the Grasslands.
3. Natives of the Grasslands.
4. The Congo basin as compared with the Amazon basin.
5. Jungle animals of central Africa.
6. The natives of the African jungle.
7. Products of the African jungle.
8. How the white man is changing Africa.

EXERCISE

1. Describe the Grasslands of Africa. Point in their direction. In what direction are they from the United States; the Arctic lands; the Amazon basin; Egypt?
2. In what belt are the Grasslands?
3. Tell about the seasons in the Grasslands.
4. Name several wild animals found in the Grasslands.
5. What other name is given the Grasslands? Why?
6. Tell briefly about the Negroes of the northern Grasslands.
7. How does the life of the Negroes of the southern Grasslands differ from that of the northern tribes?
8. What crops do the Negroes of the southern Grasslands raise?
9. In what belt is the African jungle?
10. What two great rivers rise in this region?
11. What basin forms part of the jungle area?
12. Compare the Congo and Amazon basins.
13. Name several animals and birds that live in the African jungle.
14. Tell about the villages of the jungle natives.
15. What do the jungle natives use for food?
16. What weapons do the natives use?
17. How do the natives sometimes capture animals?
18. Tell about the Pygmies.
19. What products do the white men ship from the jungle? Which of these products do they buy from the natives?
20. Name three things which show that Africa is becoming more like other lands.

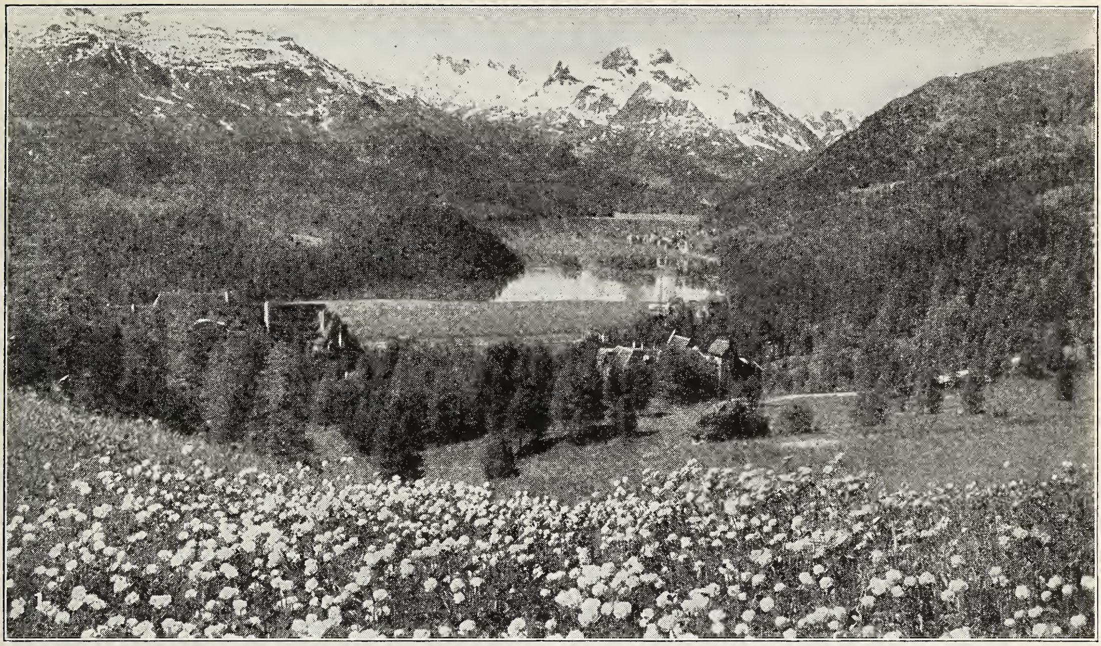
CLASS PROJECT

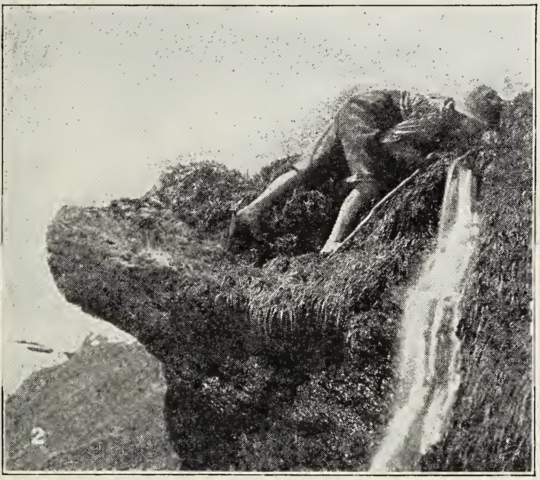
Divide the class into nine groups. Below are given nine topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in central Africa and life in the other regions already studied.

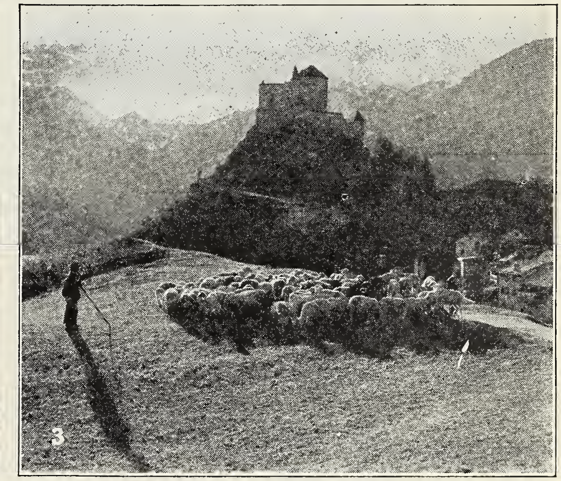
THE GRASSLANDS AND FORESTS OF CENTRAL AFRICA

1. Location
2. Climate
3. Surface features
4. Plant and animal life
5. Inhabitants
6. Food, clothing, and shelter
7. Means of travel
8. Occupations and customs
9. Products

IN A LAND OF MOUNTAINS







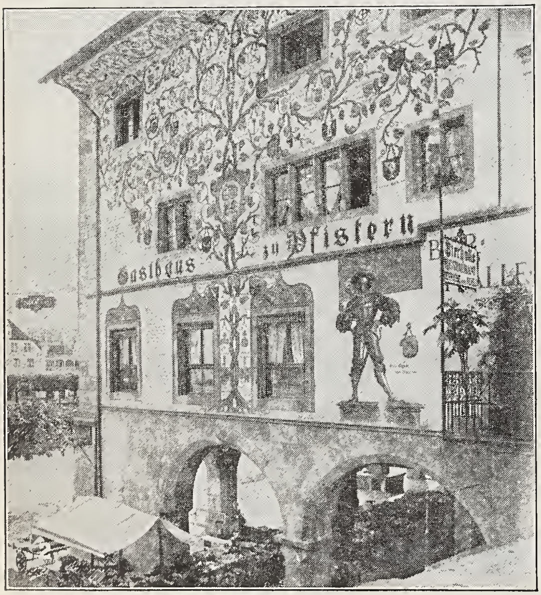
(1) (2) (3) Swiss Federal Railroads.

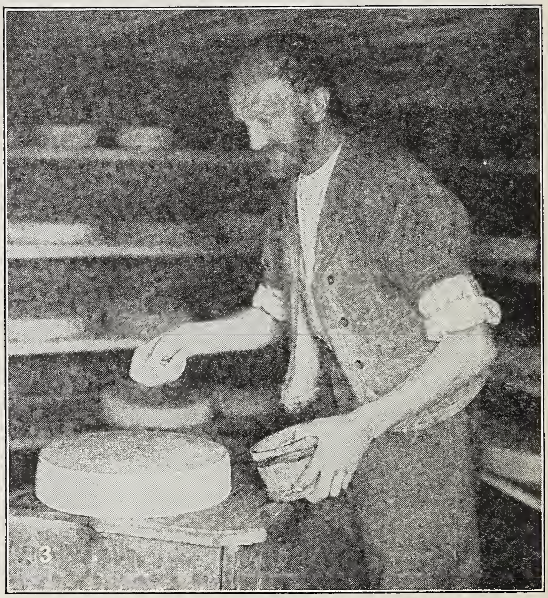
1. A lake high in the Swiss Alps. It is late in the spring and many wild flowers are blooming in the mountain pastures. The weather in the valley is mild though the high mountain peaks are still covered with snow. Even in summer these mountains are snow capped. Lakes like this one are fed by the snow that melts from the lower slopes of the mountains during spring and summer.

2. Max, a Swiss shepherd boy. It is spring and Max has brought his sheep to graze on the high mountain slopes. Here he will stay with them till fall comes. Then he will drive them down the mountains to his home. Max has climbed out on an overhanging rock to get a drink from a cool mountain stream. Many boys and girls would be afraid to go so near the edge of the cliff, but Max has lived in the mountains all his life and is used to high places.

3. Driving home the sheep. This boy, like Max, has been tending his flock all day on the slopes of the mountains. The mountain village where he lives is close to the pastures and as night falls he brings the sheep back to their pen near his home. He passes on the way an old castle, built hundreds of years ago by a powerful nobleman. Set high on the rock, and with thick walls, the castle was a safe fort in time of war. Like other countries of Europe, Switzerland has many ancient castles which people from far lands like to visit.

AT PLAY AND WORK IN SWITZERLAND





(1) (2) (3) Swiss Federal Railroads.

1. Skiers sliding down a slope in the Swiss Alps. Skiing on the mountainsides is a dangerous but popular sport in Switzerland. See how these men balance their bodies and use their ski poles to keep from falling. They must think quickly and be skilful if they are to reach the bottom of the slope without tumbling. Every year hundreds of people go to Switzerland for skiing and other winter sports. In summer, the beautiful scenery draws many visitors. Caring for tourists is one of the country's most important industries. How would you like to spend a winter in Switzerland, skiing down the mountain slopes?

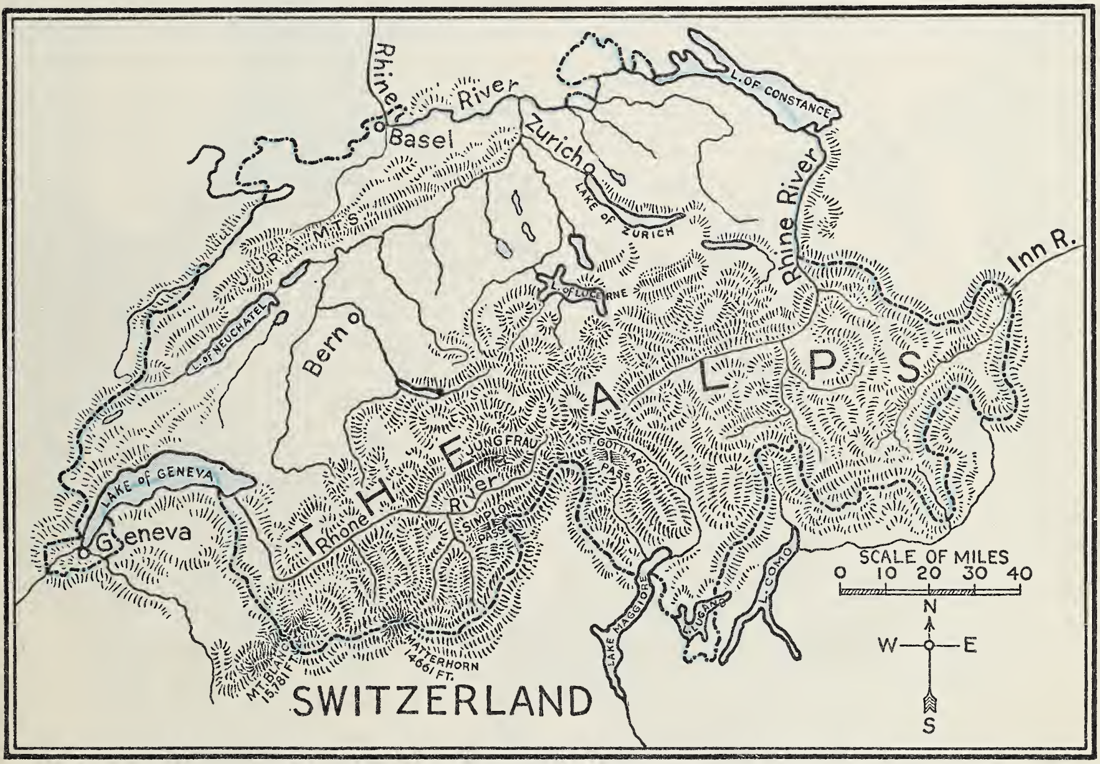
2. An inn in a Swiss village. Hotels like this one are common in Switzerland. Many visitors to the village stay at this inn. They like the clean, neat rooms and the good food. Notice the gayly painted walls. Many of the older Swiss buildings are decorated with painted designs. In the courtyard under the inn, which opens onto the street, is a fruit and vegetable market.

3. A Swiss farmer putting salt on a cheese he has made from the milk of his dairy cows. In this little mountain dairy are stored the finished cheeses. They will be left on the shelves for weeks, until they have the right flavor. When at last they are right it will be easy for the farmer to sell them, for Swiss cheese is famous, and many people are ready to buy.

SWITZERLAND—THE HOME OF THE SWISS

LIFE IN THE MOUNTAINS

How hot it is in the Amazon basin! How cold it is in the Arctic regions! How hot we found it again in the Sahara and in the jungles of Africa! So it would seem that the nearer a land is to the Equator, the hotter it is likely to be.

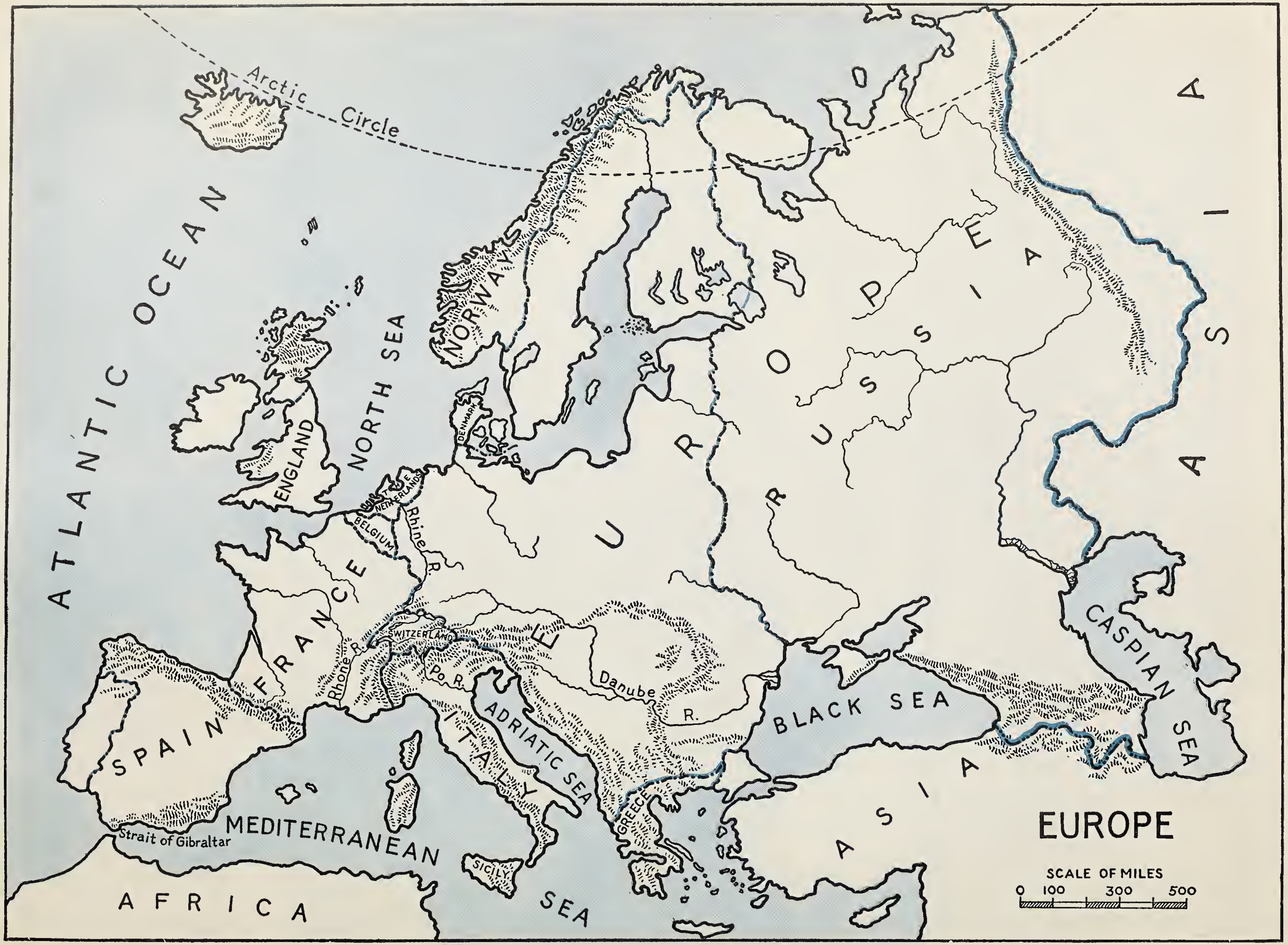


Switzerland is a beautiful land of high mountains and swift streams. Mountains almost surround it, and high ranges cover most of its surface. Many of the highest peaks are covered with snow the year round. The melting snow forms many streams which flow swiftly down the mountain slopes. These streams help form the Rhine, the Rhone, the Po, and the Danube rivers.

Yet the Congo basin is not quite so hot as the Amazon basin, although both are crossed by the Equator. This is because the Congo basin is on higher land than the Amazon basin. Other countries, too, which are at equal distances from the Equator may not be equally warm. There is Switzerland, for example, a little country far to the east of us in southern Europe. It has a colder climate than many lands which are about the same distance from the Equator.

A HIGH MOUNTAIN LAND

Your map of Europe will show you that Switzerland is a country without a seacoast. It is almost entirely enclosed by ranges of mountains, with other ranges crossing it. In the southern part of the country are ranges of the mighty Alps. Between the


EUROPE
SCALE OF MILES
0 100 300 500
Arctic Circle
ATLANTIC OCEAN
NORTH SEA
NORWAY
DENMARK
NETHERLANDS
BELGIUM
ENGLAND
FRANCE
SWITZERLAND
SPAIN
Strait of Gibraltar
MEDITERRANEAN SEA
ITALY
SICILY
ADRIATIC SEA
GREECE
Rhine R.
Rhone R.
Po R.
Danube R.
EUROPE
RUSSIA
BLACK SEA
CASPIAN SEA
ASIA
ASIA
ASIA
AFRICA

mountains are high plateaus, where in summer the air is fairly warm. But if you should climb a nearby mountain, you would find that as you get higher and higher above the plateau the air grows cooler and cooler. Keep on and you will come to where it is so cold that trees do not grow. This is called the tree line. Still higher there is only bare rock. Finally, if you climb a good high mountain, you will find snow and ice near the top, and real winter weather. So we learn that the higher a country is above the level of the sea, the cooler it is likely to be. Height above sea level is called altitude.

This high mountain country of Switzerland is a land of wonderful scenery. Tall, jagged, snow-capped mountain peaks glisten in the sunlight and are mirrored in lovely little lakes in the valleys. Splendid forests grow on the lower mountain slopes, and swift rivers of white, foaming, icy water go rushing through the deep gorges between the mountains. What a different land from the dry Sahara or the jungle lands!

AVALANCHES

The mountains of Switzerland are very tall and steep. Some of their snow-covered peaks are more than two miles above the level of the sea. As the moisture-laden winds from the Atlantic blow across Switzerland, the cold mountain air causes the moisture to fall as snow. In winter, when the snows are deep, great masses of snow start sliding down the mountain sides. Once started they gain speed and move faster and faster. As they come tearing down, they cut away quantities of rock, earth, and trees from the mountain slopes. Whole villages are sometimes buried. In the valleys or in the narrow passes between the mountains, the snow comes to rest. When the snow melts, the stones and earth which were brought down the mountain side are left to tell the story of what has happened. Wherever these avalanches, as they are called, come down they leave deep scars in the mountain side.

Sometimes an avalanche occurs in summer when the snow near a mountain peak, warmed by the sun, softens and goes sliding down the mountain.

GLACIERS

On some of the highest mountains, the cold is so great that the snow never melts away. With each storm it piles deeper and deeper, until finally the snow at the bottom of these great drifts turns into ice many feet thick. When the weight of the ice becomes very great it begins to move very slowly down the mountain side. These slow-moving ice rivers are called glaciers.

As the glacier creeps downward, it loosens dirt and small rocks and stones in its path. These are pushed along by the ice, and much of the material is ground into dust on the solid rock over which the glacier passes.

At last the glacier reaches the lower slopes, where the air is warmer. The ice gradually melts and forms little rapid streams which flow into the lakes below. The largest stones stay where the glacier melts, but the smaller ones are carried along by the streams. As the land through which the streams flow becomes more level, the streams flow more and more slowly. They deposit along their courses first the stones they carried and then the fine sand.

The Alps are a vast watershed. The name watershed, or divide, is given to high land separating river basins.

WHERE FOUR LARGE RIVERS START

Four large rivers, the Rhine, the Rhone, the Danube, and the Po, have their beginnings in the Alps. Oddly enough, each of these four rivers flows in a different direction and into a different sea. The Rhine flows north across Europe and empties into the North sea. The Rhone flows southwest into the Mediterranean sea.

The Danube, the largest of all four, follows a twisting course eastward to the Black sea. The Po flows southeast into the Adriatic sea. How different is the Amazon basin, where all the water drains into one great river that flows into the Atlantic.

A SMALL BUT IMPORTANT COUNTRY

Switzerland, though small, is a very important country. Her people have made the most of what nature has given her. The amount of land which can be used for farming is small, but all of it is worked. Hay is grown on the mountain slopes where it is impossible to raise other crops. As is usual in mountain regions there are many waterfalls and fast-flowing mountain streams. The Swiss make this waterpower turn wheels which produce electricity. This electricity runs machinery in factories, and supplies cities and towns with electric light.

HOW THE SWISS LIVE

It is too cold on the mountains, and the slopes are too steep and rough for many people to dwell there. So most of the Swiss live in the valleys or on the plateau land in attractive little cities and towns with modern buildings much like our own. The best known of the Swiss cities are Bern, the capital, and Geneva, Basel, and Zurich, which are manufacturing and business centers.

The people of the cities live and dress much as we do. In the mountains the natives still wear the quaint dress of earlier times.

Where the houses have more than one story, the walls of the first story are usually of stone, and the upper part, including the overhanging roof, is of wood. Flower trimmed galleries give many of the houses a bright and cheerful look. Sometimes parts of the woodwork are beautifully carved and are painted in gay colors. The roofs of the houses in some parts of the country are very steep, so that the heavy snows will slide off. In the regions where high winds are common the roofs are flat. The winds blow the snow off these roofs, but the roofs themselves can not be blown away as they are held down by heavy stones.

In the dairy and farming districts a large basement in the house stores the fall crops of hay, vegetables, and fruits. Back of the house are the clean stalls for the cattle. Usually they are under the same roof as the family's living quarters. The wood and stone used in building the houses come from the forests and rocky mountain sides.

MAKERS OF MANY THINGS

Few of the Swiss people are really poor. Most of them live comfortably, for they are hard working and are very skilful in the things they do. Dairying is one of the principal industries. However, the Swiss people have many different occupations to keep them busy. Some of them make beautiful silk ribbons. Others make dainty laces or do beautiful embroidery. Still others make delicious Swiss chocolate out of cacao beans and the milk from their own cows.

Though a great deal of work is done by hand, much is also done by machinery in the busy factories. At Zurich there are large cotton, silk, and woolen mills. Basel is noted for its ribbon manufactures. The materials from which these products are made are brought from America and other countries.

The greatest industry of all is watch and clock making. Swiss jewelers are said to be the best in the world, and Swiss watches are considered as fine as money can buy. Geneva is the center of the watch and jewelry trade.

SWISS TRADE

But while Switzerland has many manufactures, she has no seacoast, no harbors, and no great ships to carry her goods to distant lands. For this reason the Swiss are not counted among the great trading nations of the world. But even so, for its size Switzerland does an immense business with other nations. In America, for example, we wear Swiss watches, ribbons, jewelry, and laces, and use Swiss embroidered handkerchiefs and other articles. We eat Swiss chocolate and Swiss cheese. These goods are shipped out of Switzerland by river boats, by railroad, or over the country's splendid roads, many of which have been carved out of the mountain sides. Where it was difficult to build railroads over the mountains, tunnels have been blasted. One of these tunnels is twelve miles long. Electricity is used to run the trains through the tunnels, as coal would cause much dirt and smoke.

THE SWISS FARMERS

The Swiss farmers live in their little villages and go out each day to work their small fields and gardens. Because so much of their land is snow-covered or too steep for farming, they must make the very most of what they have. Their crops are much like those raised in this country. In the valleys they raise wheat, potatoes, cabbage, oats, and barley. Near the lakes, where the air is warmer, they plant their vineyards. Their orchards are on the lower slopes of the mountains, and higher on the mountain slopes they grow grass for hay. The Swiss raise much of their food, but because the farms are small some has to be brought from other countries.

With the coming of spring, some of the men drive the herds high into the mountains to graze. The herdsmen live all summer in tiny flat-roofed stone huts, tending the herds and making butter and cheese from the milk of their cows and goats. Swiss cheeses are famous, and are among the valuable products of this little country.

Fall days come, and the herdsmen bring their herds back to the valleys where they are given protection during the long, cold winter. There is much for all to do at home now, gathering crops and preparing for the cold days to come.

Winter comes. The hay is hauled from the fields over the snow. Trees in the forests are cut down and chopped into firewood. Like many of the people in the towns and cities, the farmers, between times, make little wooden toys. You may see these in toy shops everywhere.

A WONDERFUL PLAYGROUND

Thousands of tourists from all over the world visit Switzerland each year. The healthful mountain air, the wonderful scenery, and the winter sports draw people from far and near. So many people from other lands visit Switzerland that it is often called the playground of the world. Mountain-climbing, tobogganing, skiing, skating, and ice-boating are some of the pleasures of this wonderful vacation land.

Because of the large number of tourists which come, Switzerland's mountains are a great source of wealth to her people. Large hotels have been built near the lakes, in the mountains, and even on some of the mountain tops, to take care of the visitors.

The Swiss are kept busy providing their visitors with food, or acting as mountain guides or helping in the winter sports. For all these, visitors pay well. Millions of dollars are spent by them each year. So the caring for strangers within her borders has become a very important occupation of the Swiss people.

A COURAGEOUS AND LIBERTY-LOVING PEOPLE

Their busy, independent life in the mountains has made the Swiss a strong, courageous, and liberty-loving people. Centuries ago, other nations tried to rule them. But even before America was discovered the Swiss people set up a government of their own, and they have been independent ever since. Their government is much like ours. The country is divided into states, called cantons. All the cantons are united into a republic, at the head of which is a president. The president

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is elected by a National Congress made up of men who represent the different cantons. These representatives are chosen by the people.

The story of William Tell, whether true or not, shows the Swiss love of freedom. Hundreds of years ago, Switzerland was ruled by an Austrian governor who was very cruel to his people. To force them to show him respect, he had his hat hung on a pole in the market place, and commanded them to bow to it as they passed. All who failed to do so were punished.

One man, named William Tell, would not bow to the governor's hat. So he and his little son were seized and taken before the governor.

"I am told," said the governor, "that you are a wonderful shot with a bow and arrow. Now prove it. Your boy shall stand one hundred paces from you, with an apple on his head. If you can split that apple with an arrow, your life is spared. But, if you miss the apple or kill the boy, you shall die at once."

What father would save his own life in this way? Tell refused to shoot at the apple. Then the governor said that if he did not do as he was commanded the boy would be slain before their eyes.

What could poor William Tell do? Asking for his bow, he drew two arrows from their quiver. As he fitted one of them into the bow, the boy stood straight and still, facing his father, waiting for the arrow. Swiftly it sped, and the apple fell, cut in half.

"And the second arrow, what of that?" asked the governor.

"That arrow was for you, tyrant, if I missed my first shot," answered Tell.

Though they are brave and are willing to fight for their liberty, the Swiss people are also lovers of peace. During World War I and World War II, the nations on all sides of Switzerland were at war, but the Swiss managed to remain at peace. It was because of their peace-loving nature that their city of Geneva was made the headquarters of the League of Nations. This was a body of people representing many of the leading nations of the world. It did a great deal to keep the world at peace for many years after World War I, but it was unable to prevent World War II. The work of the League of Nations is now being carried on by another body known as the United Nations.

I SHOULD REMEMBER

1. The nearer a country is to the Equator, the hotter it is likely to be.

2. Switzerland, a mountain country in southern Europe, shows that the climate of a land also depends on its altitude, or its height above the level of the sea.

3. The peaks of some of the Swiss mountains are covered with snow all the year round. This snow slides down the mountain sides in avalanches, or is pressed into ice and moves slowly down as glaciers. When a glacier reaches the slopes below, where the air is warmer, the ice melts and forms streams which flow into the valleys.

4. The Alps mountains are a vast watershed. Down them flow streams that feed the Rhine, the Rhone, the Danube, and the Po, each of which flows through Europe in a different direction and into a different sea.

5. Switzerland, though small, is a very important country. All the land that

can be used for farming is cultivated or used for pasture. The streams and waterfalls furnish electricity for running factories and furnishing light.

6. The cities and towns of Switzerland are in the valleys or on the plateaus. Zurich, Basel, and Geneva are the best known manufacturing and business centers.

7. The Swiss people are hard working and skilful. Few are very poor. Dairying is one of the principal industries. In the cities and towns, ribbons, lace and embroideries, chocolate, and fine watches are made.

8. Because they have no seacoast, harbors, or ships, the Swiss are not great world traders. Still they do a large trade with other countries. Goods are shipped by road, railroad, or by river boat.

9. Thousands of people from all over the world visit Switzerland for health, for the wonderful scenery, for the mountain climbing, and for the many winter sports. Caring for the many visitors is a profitable and important occupation of the Swiss people.

10. The Swiss are a strong, courageous people who love their freedom. Their government is much like ours.

SOME THINGS TO TALK ABOUT

1. How altitude affects the climate of a country.
2. Avalanches and glaciers.
3. The rivers of Switzerland.
4. The story of William Tell.
5. Swiss cities and towns.
6. The products of Switzerland.
7. The effect of the seasons on the life of the Swiss farmer.
8. Why so many people visit Switzerland.
9. Winter sports.

EXERCISE

1. How does distance from the Equator affect the climate of a country?
2. Where is Switzerland located? Is it on any sea?
3. How is the climate of a country affected by its height above the level of the sea? Tell how Switzerland shows this to be true.
4. Describe Switzerland briefly.
5. What is an avalanche? What damage does it do?
6. What is a glacier? How is it formed?
7. Tell about the movement of glaciers.
8. What becomes of glaciers when they reach the lower valleys?
9. Name four rivers that have their beginnings in the Alps. Tell the direction in which each flows and the sea into which it empties.
10. Where are most of the cities and towns of Switzerland located?
11. Name three of the best known cities of Switzerland. What is the capital?
12. Tell about the houses of the Swiss people.
13. Name several occupations of the people of the Swiss cities.

14. Do the Swiss ship their goods across the sea in their own ships? Why?
15. Tell what the Swiss farmers do in spring; summer; fall; winter.
16. Tell how your own sports or home duties change with different seasons of the year.
17. What crops do the Swiss farmers raise?
18. Why do many people of other countries visit Switzerland?
19. Name some of the winter sports.
20. Why are the mountains of Switzerland a source of wealth to her people?
21. Name several fine qualities of the Swiss people.
22. Who was William Tell? How were his courage and skill tested?

EXERCISE

1. How are the seasons in Switzerland different from the seasons in the Amazon basin and in Egypt?
2. Name three regions which have large rivers.
3. What two other regions besides Switzerland have glaciers?
4. In what regions do you find herds of cattle?
5. How is farm life in Switzerland different from farm life in the Grasslands of Africa?

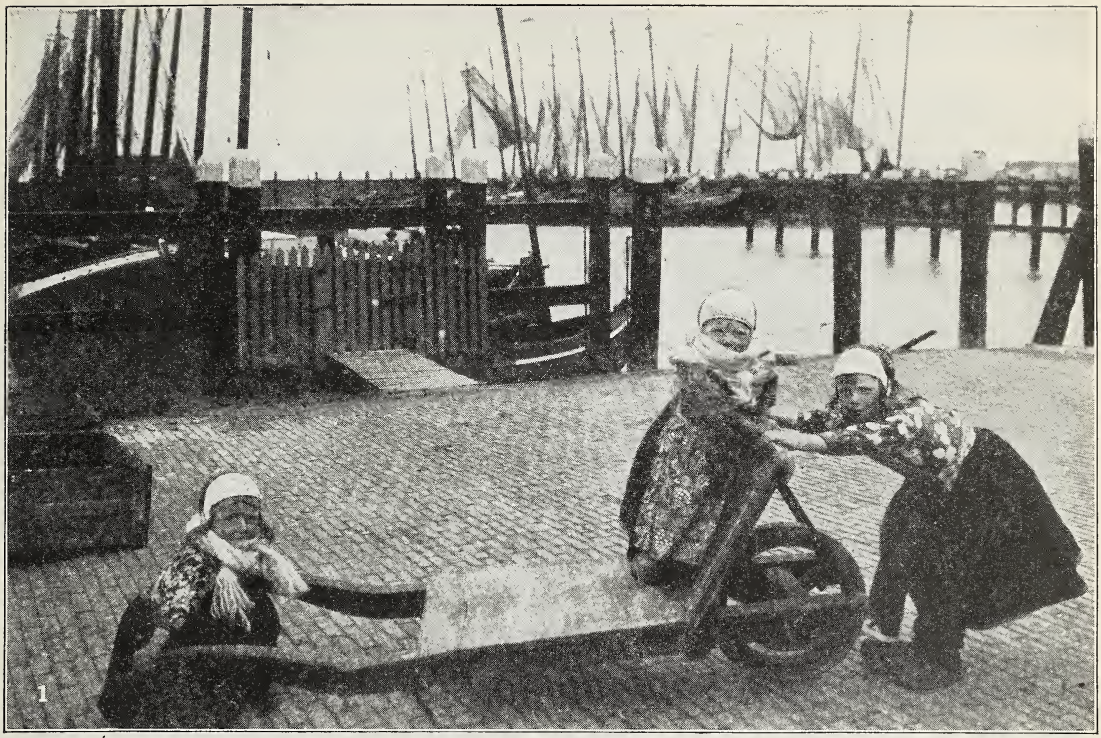
CLASS PROJECT

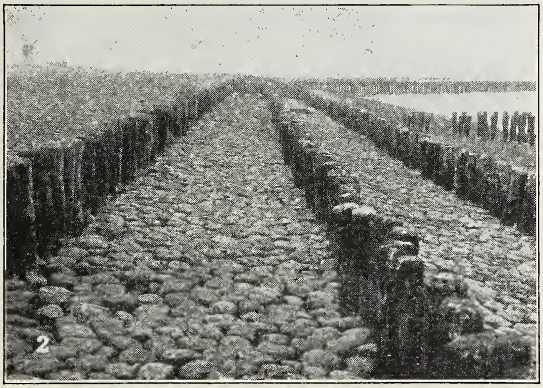
Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in Switzerland and life in the other regions already studied.

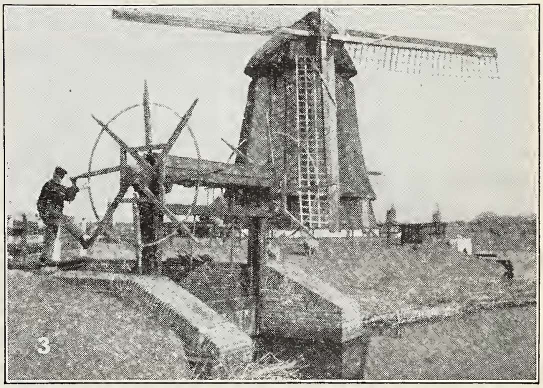
SWITZERLAND

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products

IN A LOWLAND COUNTRY







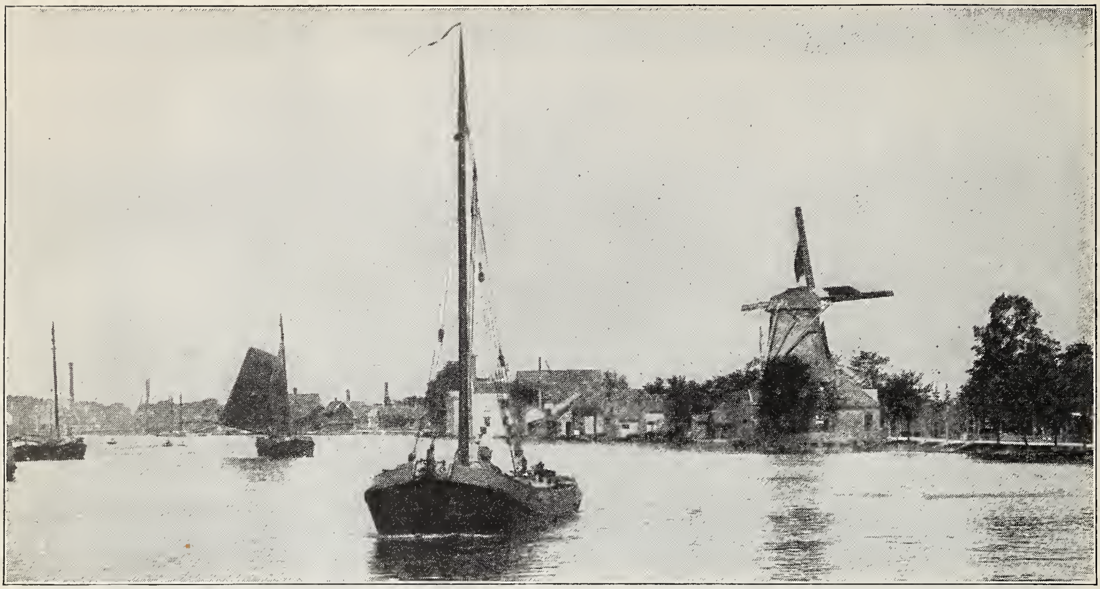
(1) (2) Publishers' Photo Service, N. Y. (3) The Netherlands Railways.

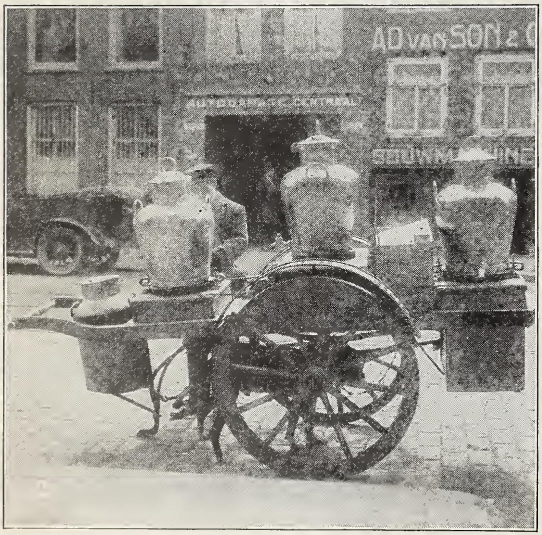
1. Dutch children playing on a wharf. Mina and her little sisters are trying to move the heavy wheelbarrow which their father uses to carry barrels of fish. Mina's father sails on one of the boats which are tied up to the wharf. The fish nets of some of these boats are hanging from their masts to dry in the wind. These children live on a small island where the people still wear the old-time Dutch clothes. See the wooden shoes and the queer lace caps.

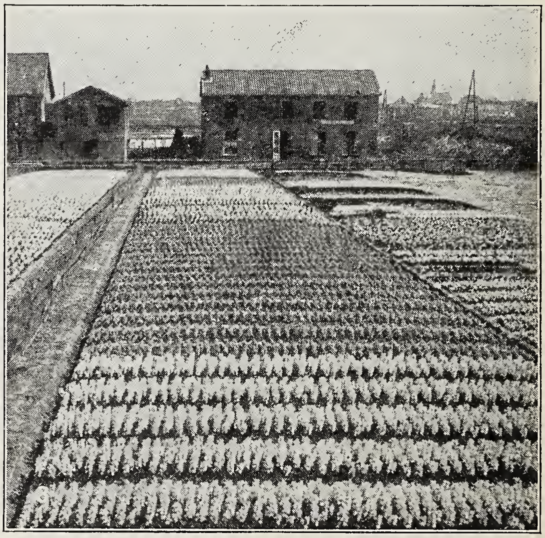
2. A dike near Mina's home. A dike is a great wall built to keep the ocean from flooding the land behind the dike. This dike is built of earth covered with large stones. The stones are kept in place by wooden piles, or logs driven deep into the earth. The coast of most of the Netherlands is protected by dikes, as a large part of the country is below the level of the sea. Though Dutch dikes are strong, heavy waves sometimes damage them. They are carefully watched, and when breaks are found they are mended at once.

3. A windmill on the land behind the dike. Mina's uncle has a farm on this low land. His fields would be covered with water if it were not for his windmills. They pump the water from the ditches in the low fields into the canal nearby, and the canal carries it to the sea. Mina's uncle is raising a gate which lets the water from one part of the canal into another part.

SIGHTS ONE SEES IN THE NETHERLANDS







(1) By Ewing Galloway, N. Y. (2) (3) Publishers' Photo Service, N. Y.

1. A Dutch ship canal. Canals in the Netherlands are used for draining water from the low fields. The Dutch also use them for trade and travel. Canal boats do much of the work which railroads and motor trucks do in our country. They carry heavy freight to and from the seaports and inland cities. On the large canals, like the one in this picture, many of the boats have both sails and engines. Of course not all the highways of Holland are waterways. On the bank at the right you can see a road leading into the village. Dutch cities have paved streets like those in our country, and railroads connect them with the other cities of Europe.

2. A milkman of Rotterdam. This sight looks very odd to us, but it is not strange to the Dutch people. The two-wheeled cart is pushed from the back by the man as the dog harnessed underneath pulls it. See how the cans shine in the sun. They are made of brass and are kept brightly polished. The people of Holland are noted for their cleanliness.

3. A field of hyacinths in the Netherlands. The flower bulbs which the Dutch people raise are famous all over the world. Hyacinths, lilies, and tulips are seen everywhere in Holland in the spring. Many farmers give all their time to growing fields of these flowers. At the end of the blossoming season they sell the bulbs, which when planted will grow new blossoms the next year. Many Dutch bulbs are sold in our country.

THE NETHERLANDS—THE HOME OF THE DUTCH

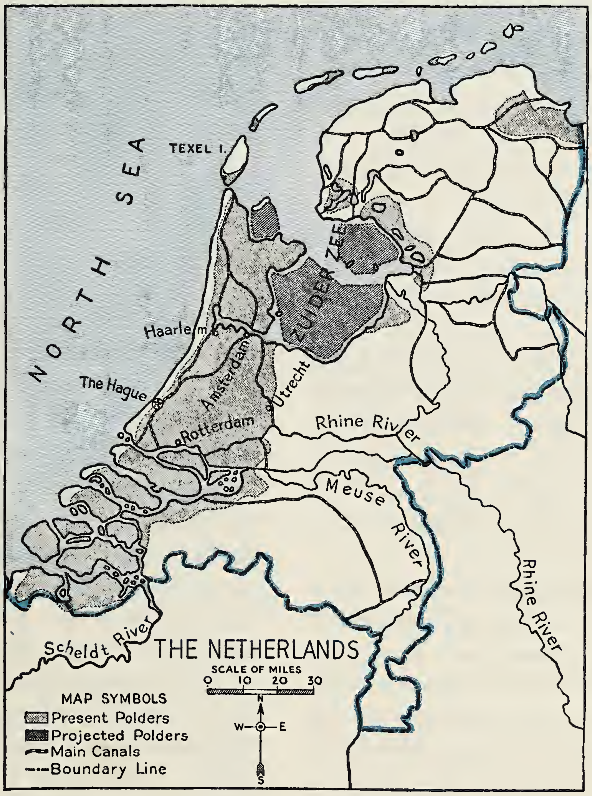
A LOW, TEMPERATE REGION

You remember that the Rhine is one of the rivers which rises in the Alps? Follow it northward across Europe to the North sea. At its mouth you will find a great delta, like that of the Nile. In this delta are wide stretches of rich low land, formed by the earth which has been brought down from the mountains by the Rhine. Through this land run the river's many outlets to the sea.

THE NETHERLANDS AND OTHER LOWLANDS

In the delta lands of the Rhine lies the Netherlands, also called Holland. This is the home of the Dutch. Netherlands means "lowlands." Europe has other lowlands besides the Netherlands. Denmark and Belgium, both close to Holland, are mostly low level plains. The northern part of France, too, is much like the Netherlands. And way off in the extreme southeastern part of Europe, in Russia, there are very low lands bordering the Caspian sea.

Although Holland is farther north of the Equator than Switzerland, it is much warmer because it is so near the level of the sea. In fact, about one-fourth of Holland is really *below* sea level. How can that be possible?



Netherlands means "lowlands." Much of the country is below sea level. The polders are fields which were taken from the sea by building dikes around them and pumping out the water. The "projected" polders are areas which the Dutch plan to drain.

TAKING LAND FROM THE SEA

Centuries ago this very low land was all under water. However, the sea water which covered it was shallow, and the thrifty Dutchmen, needing more farm land, decided they could push the sea back and make use of the land it had covered. Little by little, they built high, thick walls of earth and stone, called dikes, around sections of this shallow coast. Then they pumped the water out into the sea, and dug ditches to drain the land.

You see the Dutch have actually taken this land away from the sea. A section of land taken from the sea in this way is known as a polder. On the polders the people built their homes and planted trees and gardens, and raised crops. Polder soil is moist and fertile and so is fine for growing crops. To keep the fields from being too moist, ditches were dug across them into which the water drained.

DIKES AND CANALS

The dikes keep the sea from flowing back over the lowlands. From time to time, in earlier days, the dikes would give way, and the sea would break through, flood the land, sweep away the houses and crops, and drown hundreds of people. Today these sea walls are made much stronger than at first. They are built of stone, timber, dirt, and concrete. Every possible care is taken to build them right and to keep them in good condition. They are watched day and night, and the smallest leak is stopped immediately, for if it grew large enough the ocean would soon come pouring through the break.

In some places the people are helped by natural dikes—rounded hills of sand, called dunes—which the sea has piled up along the coast.

Even with all their work, the Dutch have a country only a little more than one-fourth as large as New York state. As their population grows they need all the land they can get to raise crops for food. They are now draining an immense bay known as the Zuider Zee.

The people of the Netherlands have more to do to protect their homes and lands than simply keeping the dikes from breaking. The moist winds from the ocean bring such heavy rains that the polders would soon be flooded if there were no way to get rid of the rain water.

To meet this danger, the people have built a network of canals, or artificial waterways, throughout the country. Many of these canals are higher than the fields through which they flow, and are walled in by dikes. The water which drains from the fields into the ditches is pumped into the canals, which carry it into the Rhine or to the sea.

MAKING THE WIND WORK

In the old days the Dutch pumps were driven entirely by windmills. Now, more and more, gasoline and steam engines are being used for this purpose. But one may still see many windmills along the canals, not only pumping water, but grinding grain and even making electricity. The land is so flat that the rivers flow very slowly, and there are no waterfalls or swift streams which can be used to drive waterwheels, like those in the mountain country of Switzerland. Wind power and engines take the place of water power. For centuries, the Dutch have made the wind do many kinds of work for them.

WATER HIGHWAYS

The canals of the Netherlands have other uses than draining the land. In many sections of the country they take the place of highways and roads, and in the cities they sometimes even take the place of streets. You see the people in boats going from place to place or carrying their crops and other products to the markets. In winter, when the canals are frozen, it is a pretty sight to see the Dutch traveling over the ice in sleighs, or skating to their work, to school, or to church.

THE POLDER FARMS

On the polders of the Netherlands are many small farms. The farmers raise wheat, barley, oats, potatoes, sugar beets, and other vegetables such as are grown in our own country. The Dutch are very fond of flowers, and the raising of bulbs has become one of their chief industries. They grow whole fields of flowers, especially tulips and hyacinths. The bulbs, from which new plants will grow, are shipped to other countries. Their sale brings the Dutch people much money.

In spite of the drainage ditches, some fields are not dry enough to plow for crops. On these grass is grown, and many cows are pastured. Dairying is an important industry in the Netherlands. The cows are well cared for. Some of the milk is used for food. The rest is made into fine butter and cheese, for which the country is noted. These products are shipped to other countries.

DUTCH CITIES

A far larger part of the people of Holland live in cities and towns than is the case in any other country we have studied. Holland is so small that even when every foot of farm land is used for crops or pasture there is not enough farm work to keep any great number of people busy. So, because there is not work enough on the farms, many of the young people go to the cities and towns to work.

The capital city of Holland is The Hague. Both on the seacoast and far inland on the rivers and canals are many other Dutch cities and towns. Though the rivers are not deep enough for ocean steamships, small river steamers and canal boats can travel on them to nearby countries. Boats can go up the Rhine river to Switzerland. This trade on the many waterways across Holland makes the Dutch cities very busy places.

HARBORS AND SEAPORTS

Some of the seacoast cities have fine harbors, as the ocean runs far into the land, forming bays which are well protected from ocean storms by the land about them. These bays make safe places for ships to anchor. Because of their good harbors, and because of the trade on the rivers and canals, the Dutch seaports have become important cities. Amsterdam and Rotterdam are among the largest. Ships from all over the world come to their great docks to unload supplies for many of the countries of Europe. These supplies are then loaded on river steamers, canal boats, and trains to be carried to inland cities. Then these great ocean ships take on other goods which the Dutch and other peoples of central Europe wish to send to distant countries, and off they sail across the ocean.

THE DUTCH AS TRADERS

Because their country is so near the sea, the Dutch people have always been sailors and traders. Long ago their vessels explored the oceans. In the early days they discovered and still own certain lands which now bring them great wealth. Most of the islands of the East Indies, lying between southeastern Asia and Australia, belong to the Dutch. From them they get coffee, tea, rice, sugar, tobacco, rubber, and spices. Java is the best known of the Dutch islands.

The Dutch ships, as well as those of most every other country in the world, carry Dutch products to distant lands. Many Dutch ships carry on trade with our country, bringing cheeses and flower bulbs and carrying home loads of grain and cotton. From Africa they take back diamonds and ivory.

INDUSTRIES OF THE DUTCH

One of the great industries of the Dutch is diamond cutting. When diamonds first come from the mines in Africa they look like rough, dirty pebbles. The skilled Dutch workmen cut them, polish them, and change them into beautiful gems. The city of Amsterdam is a center of the world's diamond trade.

The making of fine china, and the manufacture of iron and steel machinery, are other leading occupations of the Dutch.

But what is it that travelers in the Netherlands first notice about this country? It is the neat, spick-and-span look of the houses and streets. The houses always seem to have been freshly-painted or white-washed, and the walks look as though they have been scrubbed, as indeed they have. The Dutch are famed for their cleanliness.

HOUSES

The Dutch houses are not made of stone and wood as are the Swiss houses. The Swiss people have plenty of stone and wood right at hand. The Dutch do not have these materials, but they have learned to make brick from clay soil found in some parts of their country. They shape the clay into blocks and then bake the blocks to make them hard. The bricks are used for the walls of their houses. The high, steep roofs are of tile, which is made in much the same way as brick. From the sides of the roofs little dormer windows project, and above these rise tall brick chimneys.

DRESS

Until recent years, Dutch women and girls wore very wide full flowing skirts of bright colors, and little pointed lace caps. The men and boys wore great baggy trousers, and small, tight-fitting caps. All the people wore heavy wooden shoes, called sabots. The people of each town dressed just a little differently from those of other towns. If you knew these differences, you could tell from what town a person came, just by his clothes.

The real Dutch costumes are seldom seen today. Only a very few of the people still wear the national dress. As the people of a country travel in other lands and trade with other nations, they gradually change their old ways of doing things and adopt the manners, dress, and customs of those they meet. Today there is little difference in the clothes which we see worn on the streets of France, England, Italy, America, and even quaint little Holland.

WAR

The Dutch people are peaceful as well as hard working. From 1914 to 1918, while World War I was being fought on every side of them, the Dutch remained at peace. They wished to do the same thing during World War II, but they could not. In 1940, German armies entered Holland and occupied the country. German bombing planes ruined large sections of Rotterdam and other Dutch cities and killed many people. During the fighting, some of the dikes were broken, and sea water flowed in and covered many of the polder farms. The Dutch people suffered terribly. But when Germany was beaten in 1945 and the war came to an end, the thrifty Dutch set to work to rebuild their cities and their dikes and to make Holland an even better little country than before.

I SHOULD REMEMBER

1. The Rhine river has formed an immense delta at its mouth where it empties into the North sea. In these lowlands lies the Netherlands, or Holland, the home of the Dutch people.
2. The Netherlands is farther from the Equator than Switzerland, but the climate is warmer because the land is so low. Nearly one-fourth of the country is below sea level.
3. There are many people in the Netherlands. Needing more farm land on which to grow food, they enclosed shallow parts of the sea by earth and stone walls, or dikes. Then they pumped out the water and drained the land by means of ditches. On this land, called polders, the Dutch built their homes and planted crops. Polder soil is rich and moist.
4. There are many canals in the Netherlands. The rain water falling on the fields is drained into ditches and pumped into the canals, which carry the water to the sea.
5. For centuries Holland has used wind power in place of water power. Windmills are still used to pump water, to grind grain, and to make electricity, but, more and more, gasoline and steam engines are being used.
6. In Holland the canals often take the place of roads and streets.

7. The Dutch farmers raise wheat, barley, oats, potatoes, and sugar beets. Flower bulbs, especially tulips and hyacinths, are also raised and are sold in many countries.

8. On the very moist fields, grass is grown and cows are pastured. Their milk is made into fine butter and cheese, which are shipped to other countries.

9. A large part of the population of the Netherlands lives in cities and towns. Every foot of farm land is used for raising crops or pasturing cows.

10. The towns and cities are located on the coast and on inland rivers and canals. Small river steamers and canal boats travel over the waterways and go far into the central part of Europe, carrying goods.

11. Some of the seaport cities of Holland, like Amsterdam and Rotterdam, have fine harbors. This makes them centers of trade with other countries.

12. Being near the sea, the Dutch are great sailors and traders. They have foreign possessions which bring them much money. Their own ships bring diamonds and ivory from Africa, coffee, tea, rice, sugar, tobacco, rubber, and spices from the islands of the East Indies, and cotton and grain from America.

13. Diamond cutting, the making of fine china, and the manufacture of iron and steel machinery are leading Dutch industries. Amsterdam is a world center of the diamond trade.

14. The houses of the Dutch are built of brick and tile made from clay.

15. The Dutch dress much as we do.

SOME THINGS TO TALK ABOUT

1. The polders of the Netherlands.
2. How the sea is kept from flooding the land.
3. Differences between the Netherlands and Switzerland.
4. Rivers and canals of the Netherlands.
5. How travel in the Netherlands differs from that in other countries.
6. The products of the polders.
7. Dutch seaports.
8. Industries of the Dutch cities.
9. Goods which ocean vessels carry to and from Dutch seaports.
10. The national dress of Holland.

EXERCISE

1. What great river flows from Switzerland to the North sea?
2. What is found at the mouth of this river? Describe it.
3. What country is located in the delta of the Rhine?
4. What other name is given to this country?
5. Is the Netherlands nearer to or farther from the Equator than Switzerland?

6. Is the Netherlands warmer or colder than Switzerland? Give a reason.
7. How did the Dutch people make dry land out of the sea bottom? What name is given to such land?
8. What are dikes? Why are they needed?
9. How do the Dutch people drain the rain water from the polders?
10. Tell how the Dutch make use of wind power, and why.
11. Tell about the rivers of the Netherlands.
12. What use is made of canals?
13. Can you tell why there are no canals in Switzerland?
14. What crops are raised on the polders?
15. What is done with the fields that are too wet to grow crops?
16. Why do so many of the Dutch people live in cities and towns?
17. Tell how the rivers and canals of the Netherlands help Dutch trade.
18. What is a harbor?
19. Name two large seaports of the Netherlands that have good harbors.
20. What valuable islands belong to the Netherlands? Where are they located?
21. Name several kinds of goods brought to the Netherlands from other countries.
22. For what industry is Amsterdam famous?
23. Name other occupations of the Dutch cities.
24. How are the Dutch houses different from the houses of the Swiss? Why are they different?
25. Describe briefly the national dress of the Dutch.
26. What kind of clothes are now worn throughout most of Holland?
27. Name other lowlands of Europe besides the Netherlands.

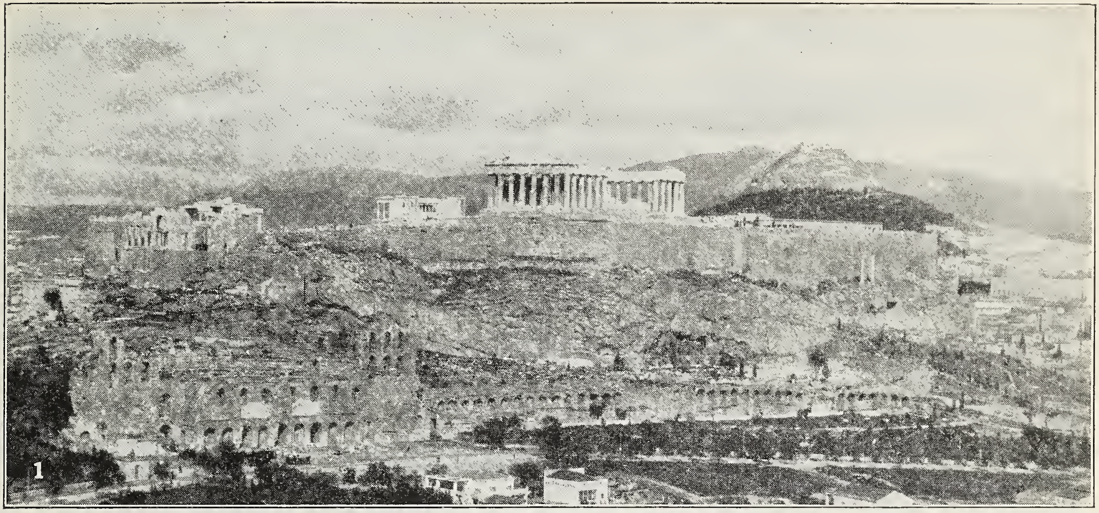
CLASS PROJECT

Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in the Netherlands and life in the other regions already studied.

THE NETHERLANDS

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products

FAMOUS VIEWS IN MEDITERRANEAN LANDS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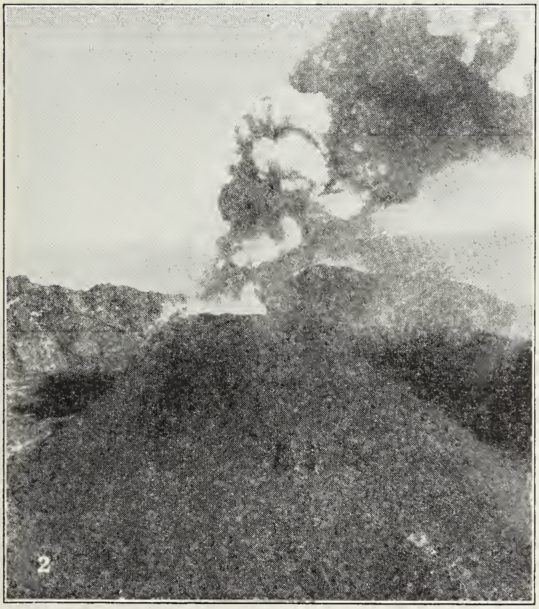
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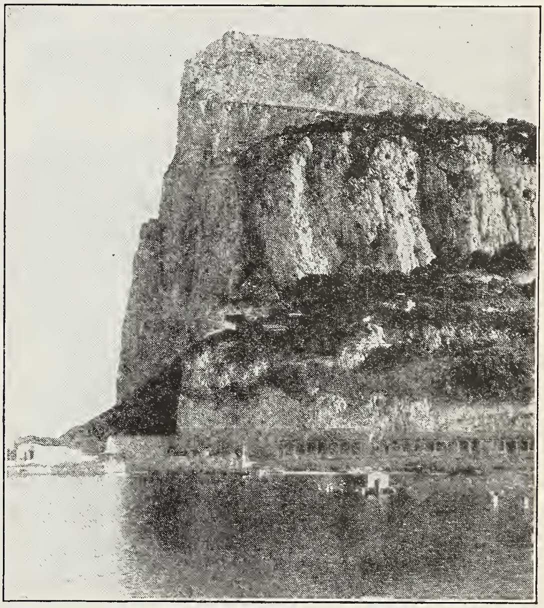


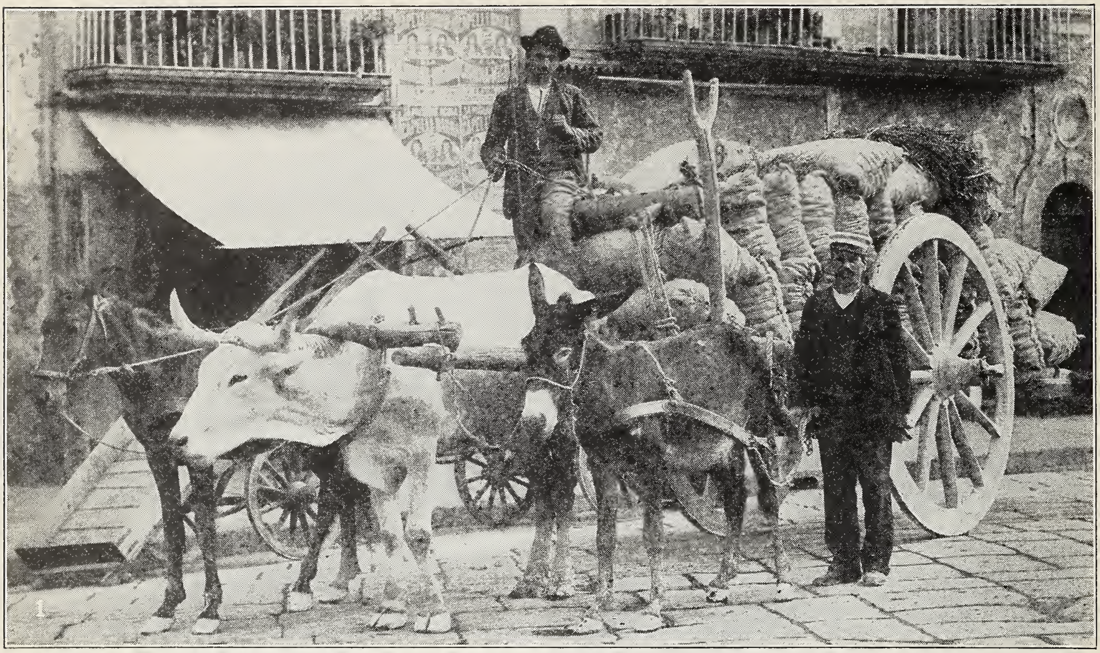
(1) (2) (3) Publishers' Photo Service, N. Y.

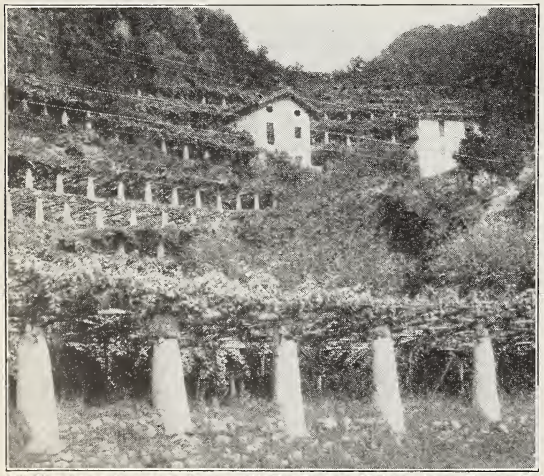
1. The Acropolis of Athens, a famous Greek city. The word "Acropolis" means "the high part of a town." On this hill the Greeks built beautiful temples many hundreds of years ago, when Greece was a rich and powerful country. So much time has passed since the buildings were finished that they have fallen into ruin. But even the ruins are noted for their beauty. The Greek style of building is used in many countries today. Perhaps some buildings in your town have columns copied from one of the temples you see in this picture.

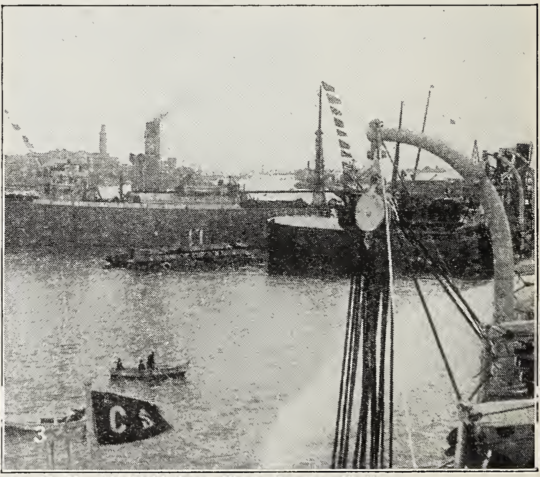
2. The crater, or mouth, of Mount Vesuvius. Mount Vesuvius is a famous volcano in southern Italy. The great hole in this mountain reaches far down, and smoke comes from it night and day. Sometimes the mountain blows steam and ashes miles into the air and sends streams of melted rock down its sides. There are often earthquakes near its foot. Once, many years ago, Vesuvius threw out such great quantities of rock and ashes that towns nearby were buried deep under them.

3. The Rock of Gibraltar. This great mass of stone overlooks the narrow strait which joins the Atlantic ocean and the Mediterranean sea. In ancient times the daring Phoenician sailors sailed through the strait and north along the shores of Europe and finally reached the land we now call England. Today steamships from every land travel past the steep rock. Gibraltar is a British fortress with huge guns set high in the rock to protect this entrance to the Mediterranean.

ALONG THE MEDITERRANEAN







(1) Hamburg-American Line. (2) By Burton Holmes from Ewing Galloway, N. Y. (3) Publishers' Photo Service, N. Y.

1. An express wagon in Naples, a city in Italy. In our country we might look all our lives, but we would not find an ox, a horse, and a mule harnessed together pulling a two-wheeled cart. In the countries along the Mediterranean sea, people still do many kinds of work in old-time ways. Machinery is little used, and few own automobiles. The men who own this mixed-up team do not think it strange. The driver even looks rather proud of it.

2. An old vineyard near the Mediterranean sea. The owner of this vineyard raises fine grapes. He has cut terraces, or wide shelves, in the steep hillside, and built low stone walls to hold the earth in place. See the pillars of white stone which hold up the wooden frames on which the grape vines grow. The grapes from this vineyard will bring much money. Grapes are an important crop in Mediterranean lands. Some come to us in the form of raisins, which are really dried grapes.

3. Ships from many lands at the entrance to the Suez canal. Less than a hundred years ago there was no canal here. Where the water is now was the sand of the Isthmus of Suez. Camels, not ships, carried goods across the isthmus. Then the Suez canal was dug through the isthmus, and ships could sail from the ports of Europe to the Far East without making the long journey around the southern end of Africa.

MEDITERRANEAN SEA AND LANDS

The stories of the countries which lie about the Mediterranean sea read like fairy tales. They tell of great heroes, cruel rulers, brave princes, daring deeds.

The long name, Mediterranean, means "between lands." That is just what the Mediterranean sea is—a great body of water almost entirely surrounded by the lands of three continents. Europe lies to the north, Africa to the south, with a bit of Asia at the eastern end.

SAILING THE SEA IN ANCIENT TIMES

Well over two thousand years ago, great races of people dwelt along the shores of this inland sea. Among the most important of these peoples were the Phoenicians, the Greeks, and the Romans. We should be especially interested in these nations, because they did much that has helped our own civilization in ways of living.

From the first, the Phoenicians, Greeks, and Romans used the great sea near which they lived as a means of getting from one land to another. But their boats were few in number and were small and unsafe. They were of wood, roughly made, and were driven by oars and sometimes by a small sail or two. Such boats could not face heavy storms. Many of them sank at sea, or were wrecked on the rocky shores. Besides, they were very slow.

How different these ships were from the ships of today. Our great metal steamships, driven by powerful engines, go farther in a day than these little boats could go in weeks. They can weather severe storms. One great steamship can carry more people and more goods than a hundred boats could carry in those early days.

Is it surprising that the people of those ancient lands feared the sea even though they sailed it? Many, many of their ships sailed away and never came back. The sailors faced so many real dangers that it was easy to imagine other dangers that were not real. People came to believe that there were monsters in the sea that destroyed ships and killed sailors.

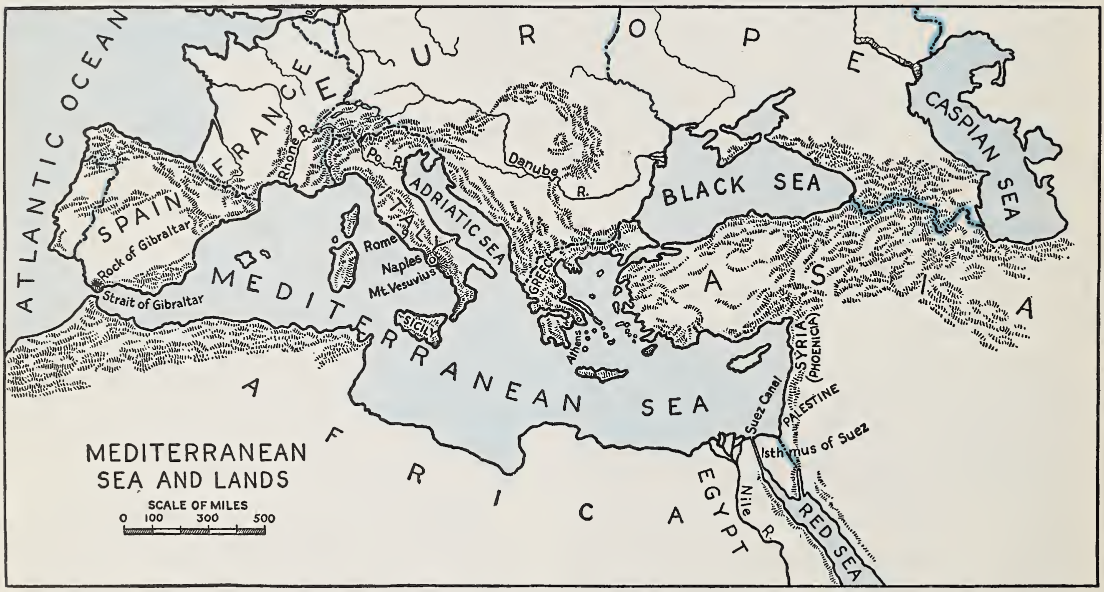
Then there were stories about the smoking mountains, or volcanoes, that rise here and there near the northern shore of the Mediterranean. Sometimes these volcanoes threw out stones, hot melted rock, and clouds of ashes that darkened the sky. This material, at times, destroyed towns and sank boats in the nearby bays or harbors. The people did not know that volcanoes are simply openings in the earth's surface through which heated matter from inside the earth is blown out by steam and gas that form there. So they imagined that angry beings in these volcanoes were trying to destroy them. They made up terrible stories of the dangers vessels had to face when near a volcano. Vesuvius, in Italy, is the greatest of these volcanoes that caused terror.

In those early days, too, there were no maps and no ways of telling directions when at sea. Sailors had to keep in sight of shore. If they went out of sight of land, they could not tell where they were. To get to the other side of the sea, they had to follow around the shore. Very early, they learned to tell directions by means of the sun and stars, but in times of storms these helps were hidden from them. However, their love of adventure, their desire to conquer other lands, to plant colonies, and to trade overcame all their fears.

So, in spite of the dangers, real and imagined, the Phoenicians, the Greeks, and the Romans sailed the Mediterranean, and as they came to know the sea, they made rough maps to show the location of different lands along its shores. As time went on they built larger and stronger ships, driven by more rows, or banks, of oars, one above another. They used larger sails. The ships went faster, carried larger loads, and were better able to meet heavy storms.

THE PHOENICIANS

The Phoenicians were the first to build up a great sea trade. From their homeland, Phoenicia, at the eastern end of the Mediterranean, they sailed their ships all about the inland sea. In this way they discovered new and distant lands with which to trade. Finally, they happened on the Strait of Gibraltar—the deep, narrow passageway which connects the Atlantic ocean and the Mediterranean sea. Bravely they sailed through the strait into the Atlantic ocean, and at length reached the land which is now called England.



The Mediterranean sea means "the sea between the lands". Is it well named? Long ago three great peoples, the Greeks, the Romans, and the Phoenicians, lived on the shores of the Mediterranean. They sailed their small ships over its waters to trade with each other and to discover new lands. Today the Mediterranean is a great highway for ships of all nations of the world.

Perhaps the most important thing the Phoenicians did was to invent an alphabet. The alphabet we use today grew out of the alphabet the Phoenicians made so many years ago.

THE GREEKS

Greece, the home of the Greeks, is northwest of Phoenicia, on a part of the mainland of Europe that extends out into the Mediterranean sea. Such a body of land, almost surrounded by water, is called a peninsula.

Like the Phoenicians, the Greeks became sailors and traders. Many of them were great artists and writers who left us beautiful poems, interesting stories, and wonderful statues and temples so beautifully made that to this day people of other nations use them as models.

THE ROMANS

The Romans lived in Italy, another peninsula, west of Greece. If you look at your map or globe, you will find it stretching down into the middle of the Mediterranean. It looks somewhat like a huge boot.

The Romans were great soldiers, builders, and rulers. Their armies conquered many of the surrounding countries. In the lands they ruled they built broad roads and wonderful buildings. The Romans also made wise laws for governing these lands. So good were the Roman laws, that many of the laws of our country and other countries are copied from them.

MODERN NATIONS ALONG THE MEDITERRANEAN

As years passed, these early nations lost their power, and other nations sprang up along the Mediterranean. Although the early peoples lost their power, their learning was never forgotten, but was handed on from age to age, from land to land, till it finally reached America.

At the western end of the Mediterranean, in Europe, is the country of Spain. At Spain's most southern point, at the Strait of Gibraltar, towers a great steep hill of bare rock called the Rock of Gibraltar. The English people own this rock. They have cut tunnels and openings into its steep side and have mounted there huge guns to guard the strait. Gibraltar is probably the strongest fort in the world. In days of peace all ships may pass it freely. But in case of war, an enemy who tried to sail through the strait would have a sorry time indeed.

To the northeast of Spain is France. The Mediterranean coast line of France runs from Spain to Italy, the land where once the Romans ruled.

In the land of the ancient Greeks is the new nation of Greece. Where the Phoenicians once lived is the country of Syria, in Asia. South of Syria is Palestine, where Christ was born. In northeastern Africa is Egypt.

From the European countries on the Mediterranean many people have come to live in our United States. Perhaps there are children in your class who came, or whose parents came, from Italy, or from Greece, or from some other of these Mediterranean lands. Perhaps they will point out on the map for you the land from which they came, and will tell you something about the life in these countries.

CLIMATE

The lands of Europe which border on the Mediterranean sea are very lovely and have a wonderful climate. They have only two seasons—summer and winter. In summer these countries are sunny and warm, with little rain. How you would enjoy the fine air and the bright blue sky! Even the water reflects this wonderful sky, and is a very beautiful blue.

In winter there is a moderate rainfall, and the weather is cooler. Yet it is never very cold unless one goes back into the mountains. Along the coast it seldom snows. Many people from other parts of Europe, and from other lands, come to the towns along the Mediterranean shore to spend a part of the mild winters. These towns are called winter resorts.

PRODUCTS

Many kinds of crops are grown on the lands lying near the Mediterranean. There is not much level land along the coast. So the farmers work hard, cutting great flat shelves, or terraces, in the steep hillsides. These terraces are built one above another, like giant steps. About each step a wall is built so that the soil will not be washed down the slopes by the rain. On these terraces the farmers grow their crops.

Perhaps you have eaten olives which were grown in Spain, Italy, Greece, or France. These countries also produce fine grapes, from which wine and raisins are made. Oranges and lemons are grown in Spain, Italy, and France, and also in Sicily. Sicily is an island near the southwest coast of Italy. Many of the figs and dates you eat come from Syria, and from Egypt and other countries in northern Africa. You see that most of the fruits are the kinds that grow only in warm climates.

Naturally, having so much seacoast, the Mediterranean countries do a good deal of fishing. Spain, especially, exports large quantities of sardines.

TRADE ROUTES TO ASIA

Years ago, the only gateway to or from the Mediterranean sea was the Strait of Gibraltar. If Mediterranean ships wanted to sail to distant lands in eastern Asia, they had to go out into the Atlantic, around Africa, and then through the Indian ocean to the Pacific. This was a long, dangerous voyage. To avoid it, goods were shipped over land by caravans. Caravans from northern Africa reached Asia by crossing the narrow neck of land, or isthmus, which joins these two continents. This neck of land is known as the isthmus of Suez.

Goods from European ports, bound for eastern Asia, could also be shipped to the isthmus of Suez by boat, but there they had to be unloaded, carried across the isthmus and reshipped on the Red sea. Though this was shorter than sailing around Africa it had its drawbacks. Finally, in 1869, engineers dug a great canal, the Suez canal, through the isthmus of Suez, thus joining the Mediterranean and the Red seas. Ships are now able to sail up the Mediterranean, through the Suez canal, into the Red sea and on into the Indian ocean. Think of the time this saves and the ocean dangers which are avoided. The opening of the Suez canal has added greatly to the trade on the Mediterranean and has made of this inland sea a very important highway, over which ships of all nations are continually coming and going.

I SHOULD REMEMBER

1. South of Europe is a great inland sea called the Mediterranean.
2. The strait of Gibraltar is the western entrance to the Mediterranean sea. This great sea is surrounded by lands of Europe, Asia, and Africa.
3. The Phoenicians, Greeks, and Romans were great nations who lived on the shores of the Mediterranean in olden times.
4. Among the countries on the shores of the Mediterranean today are Spain, France, Italy, Greece, Syria, Palestine, and Egypt.
5. From the European countries on the Mediterranean many people have come to live in our United States.
6. The climate of the Mediterranean countries is warmer than our own. There are two seasons—summer and winter. In summer there is much sunlight and little rain. The winters are mild, with moderate rainfall.
7. There is not much level land along the Mediterranean coast. Crops are grown largely on shelves, or terraces, cut in the steep hillsides. Olives and grapes are grown in Spain, Italy, Greece, and France; oranges and lemons in Spain, France, Italy, and Sicily; and figs and dates in Syria, Egypt, and northern Africa.
8. Fishing is a common industry of the Mediterranean. Large quantities of sardines are exported by Spain.
9. To shorten the distance by water to countries of Asia, a canal has been cut through the isthmus of Suez, which joins Asia and Africa. As a result, ships from all over the world now pass through the Mediterranean on the way to and from Asia.

SOME THINGS TO TALK ABOUT

1. The Rock of Gibraltar.
2. The Mediterranean sea.
3. Ancient nations of the Mediterranean lands.
4. Ships of olden times and ships of today.
5. What we owe to the Phoenicians, the Greeks, and the Romans.
6. Mediterranean lands from which many people come to live in America.
7. Products of the Mediterranean lands.
8. The importance of the Suez canal.

EXERCISE

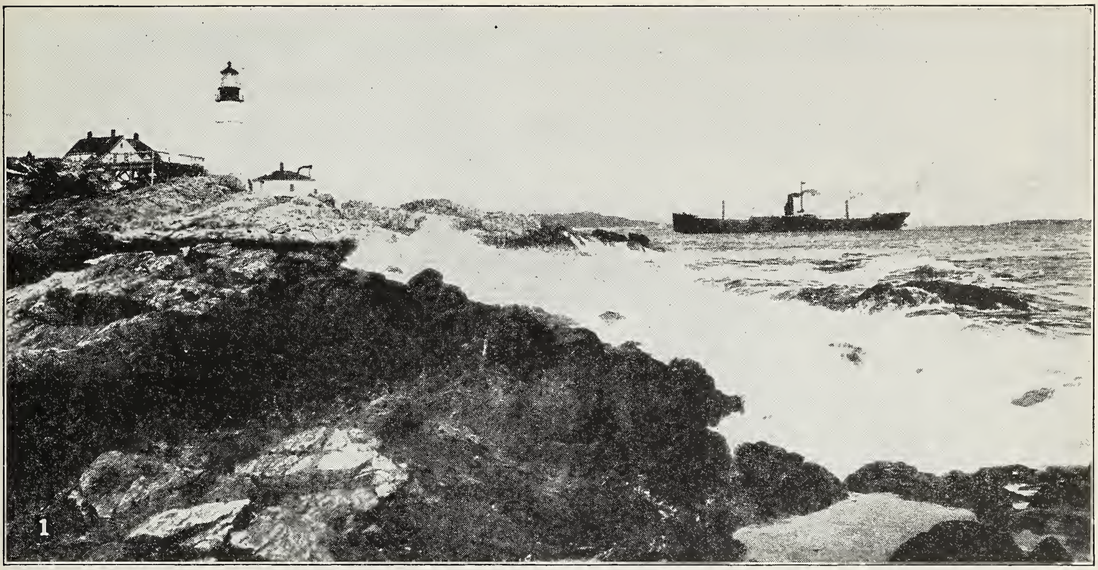
1. What is the name of the great body of water which lies south of Europe? Point in that direction.
2. What is a strait?
3. Where is the strait of Gibraltar?
4. Tell briefly about the Rock of Gibraltar.
5. What does the name Mediterranean mean?
6. Name three great nations that lived along the Mediterranean in olden times.
7. What use did they make of the Mediterranean? Why?
8. Describe briefly the ships of these ancient people.
9. Name three ways in which the steamships of today are better than the boats of olden times.
10. Why were the sailors of ancient times afraid of the sea?
11. What is a volcano? Where is Vesuvius located?
12. Where did the Phoenicians live?
13. In what way have the Phoenicians helped the people of today?
14. Where did the ancient Greeks have their home?
15. What is a peninsula?
16. What have the ancient Greeks left us?
17. Where did the Romans live?
18. In what ways were the Romans a great people?
19. How have the Romans helped us?
20. Name seven of the countries which now border on the Mediterranean.
21. Tell about the climate of the Mediterranean countries.
22. How do the farmers of these countries make use of the steep hillsides?
23. Name important crops grown in each of five countries of the Mediterranean.
24. Where is the island of Sicily?
25. For what special fishing industry is Spain well known?
26. What is an isthmus?
27. Where is the Suez canal?
28. How does the Suez canal help trade?

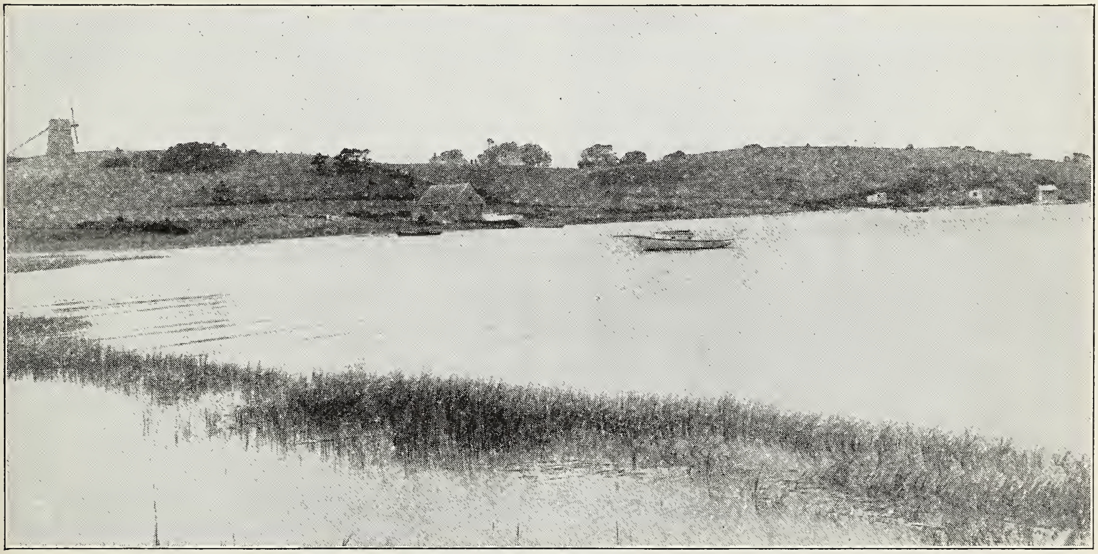
CLASS PROJECT

Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in the Mediterranean lands and life in the other regions already studied.

THE MEDITERRANEAN LANDS

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products



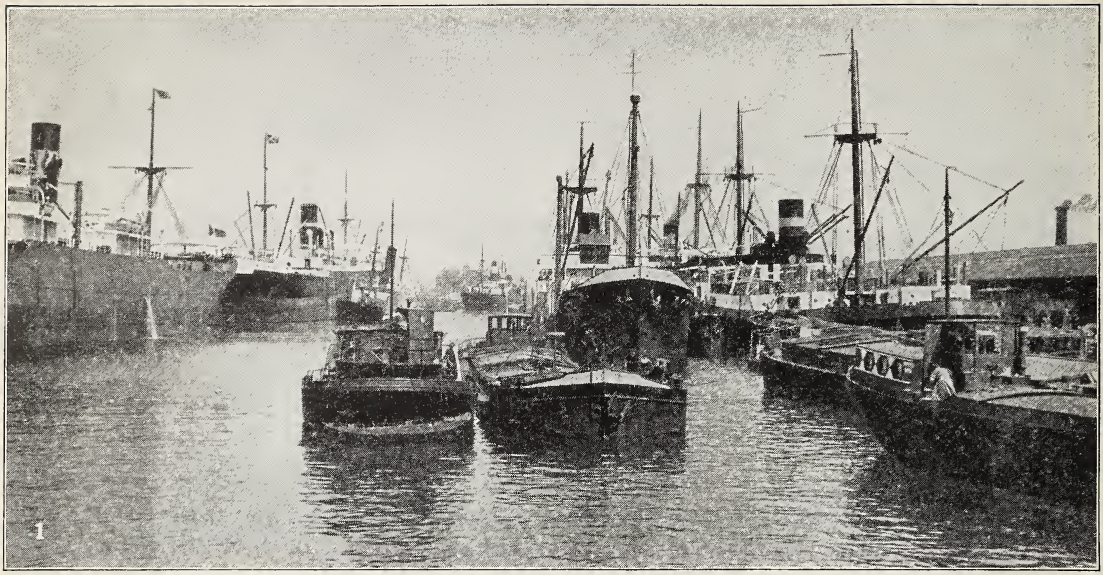


(1) By Ewing Galloway, N. Y. (2) New York, New Haven & Hartford Railroad.

1. On New England's rocky coast. These rocks face the sea at the entrance to a harbor, into which the ship is steaming. The entrance is narrow, and in places rocks lie just below the surface of the water. Great care must be taken in steering the ship to keep it from striking the rocks. The high tower on the shore is a lighthouse. In its top is a huge lamp, which is kept lighted all night. It shines so brightly that it can be seen for many miles out on the sea. This light shows sailors where the entrance to the harbor is, and also tells them to beware of the rocks. On the smaller building is a foghorn. When fog covers the sea so that the light can be seen for only a short distance, this horn blows loudly every few minutes to warn ships of the rocks.

2. Flood tide on a sandy coast. Here we see the shore of a little bay on our eastern coast. The land slopes gently to the water and ends in a marshy beach. Twice a day, at flood tide, the water rises in the bay and covers the beach. Twice a day, at ebb tide, the water falls back and leaves wide stretches of mud and sand. See the tops of the long blades of marsh grass showing above the water. The wind blows freely over this low shore. One farmer has built a windmill to make use of the wind's power to pump water to his house and barns. This windmill is like those built by the Dutch in the Netherlands. Most of the windmills we see in the United States are taller than this one and are built on steel or wooden frames.

SIGHTS ON THE SEA AND ALONG THE COASTS



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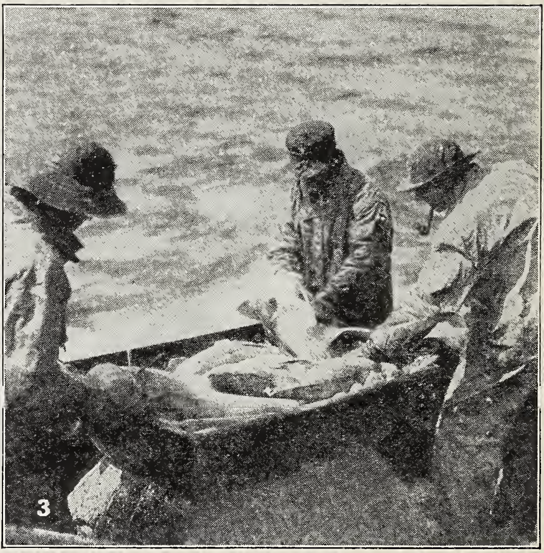

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(1) By Ewing Galloway, N. Y. (2) Copyright E. M. Newman, from Publishers' Photo Service, N. Y. (3) Keystone View Co., N. Y.

1. A busy harbor in the lowland country of Belgium. There are many kinds of boats in this harbor. In the center we see a tugboat towing a broad, flat canal boat. The canal boat is heavily loaded. See how low it sits in the water. The large boats with their huge smoke stacks are ocean steamships. They have come from foreign lands. Some of them carry goods from our own land to be delivered to European countries. Harbors such as this are very valuable to a country.

2. A fisherman of Newfoundland. This fisherman is fortunate, for he has caught all these cod. He has been out fishing in the shallow waters of the Atlantic ocean near the Newfoundland shore. This shallow area is called the Grand Banks and has been a famous fishing ground for many, many years. Most of Newfoundland's people get their living from the sea, for the land is too rocky to raise crops.

3. Fishermen cleaning cod on the way home. The cod were caught on the Grand Banks by these Gloucester fishermen. At Gloucester the cleaned and split cod will be spread on racks to dry in the sun. When they are well dried they will be packed in boxes and sent to markets all over the world. No doubt you have eaten fish caught by Gloucester fishermen. Besides being an important fishing town, Gloucester carries on many industries which depend on the fishing. The making of glue from parts of the fish which are not used for food is one occupation of the people.

SOME PEOPLES OF THE SEACOAST

NEW ENGLAND—NEWFOUNDLAND—NORWAY

When you took your journey over the Lincoln highway from the eastern coast to the western coast of our country, you traveled the whole width of a continent. The United States is part of the large continent of North America.

You have learned something about six other large continents of the earth—South America, Africa, Europe, Asia, Antarctica, and Australia.

These great bodies of land are thousands of miles wide and thousands of miles long. Yet, large as they are, they cover only about one-fourth of the earth's surface. Except for islands, the rest of the earth's surface is covered with water. The surface of the oceans, seas, lakes, and streams of the earth is actually three times as great as the land surface.

THE OCEAN

The oceans are the largest bodies of water. There are five of them—the Atlantic, Pacific, Arctic, Antarctic, and Indian oceans. The greatest of these is the Pacific ocean, which lies west of us. Next to the Pacific in size is the Atlantic ocean, which lies east of us. North and South America are the only continents which touch both of these great oceans.

Of course, you can not stand on the shore of a continent and see across the ocean to the other side. As you look into the distance, the ocean seems to slant up towards the sky, and the sky to slope down to meet it. The line where sky and water or sky and land seem to meet is called the horizon.

If you have ever tasted the ocean water, you know that it is salty. It is not good to drink. The waters of the Mediterranean sea, and of other arms of the ocean reaching into the land, are also salty. Inland waters are seldom salty. It is these fresh waters that we drink.

The waters of the ocean are always in motion. Even when you feel no wind, the ocean rises and falls in long, low waves, called swells. During very heavy storms the waves caused by the wind roll high enough to wash over the decks of the largest steamships. Along the coasts these large waves roll in and break on the shore.

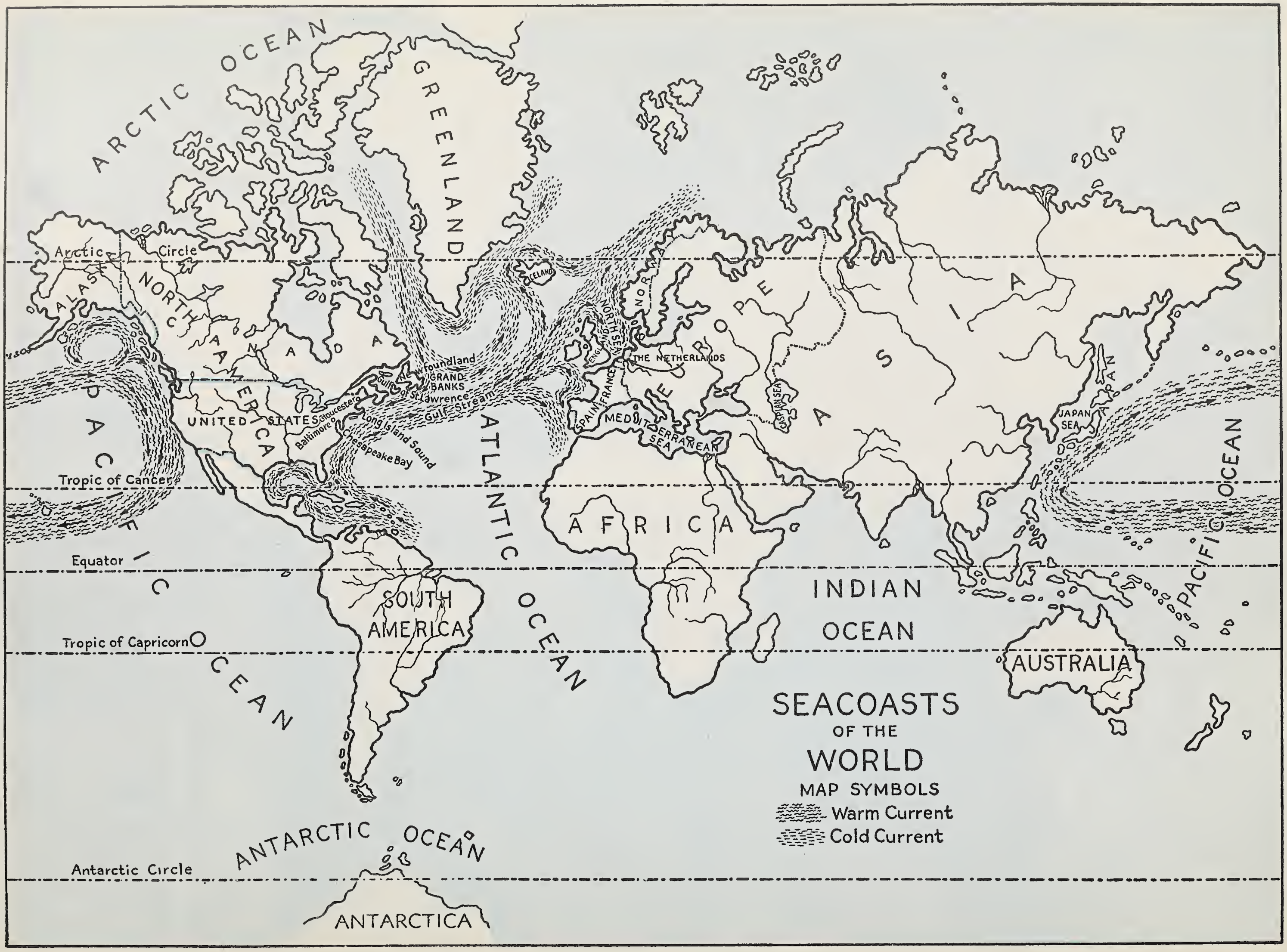
OCEAN TIDES AND CURRENTS

One of the most interesting sights at the seashore are the tides. Twice each day, at regular intervals, the water rises for hours, creeping farther inshore with each wave. This is called flood tide. After rising for a time, the water slowly falls back and leaves the shore bare. Then we have ebb tide.

All of you have seen streams flowing through the land. But isn't it odd to think of streams flowing through the ocean? Yet there are great streams, or currents, in the ocean that flow for thousands of miles. In some of these streams, or currents, the water is cold; in some, it is warm.

One warm current starts in the waters south of our country, flows northward as far as Newfoundland, and then east toward Europe. It is called the Gulf stream. Another warm current, starting north of the Equator, flows past Japan, across the Pacific and follows our western coast southward. These warm currents make the climate of the coasts along which they sweep much milder than it would otherwise be.

From the icy Arctic waters comes a cold current which flows down the northeastern coast of North America, touching part of


SEACOASTS
OF THE
WORLD
MAP SYMBOLS
Warm Current
Cold Current
ARCTIC OCEAN
GREENLAND
Arctic Circle
ALASKA
NORTH AMERICA
CANADA
UNITED STATES
Newfoundland
GRAND BANKS
Gulf of St. Lawrence
Gulf Stream
Gloucester
Baltimore
Long Island Sound
Chesapeake Bay
ICELAND
NORWAY
NORTH SEA
ENGLAND
THE NETHERLANDS
FRANCE
SPAIN
MEDITERRANEAN SEA
CASPIAN SEA
EUROPE
ASIA
JAPAN
JAPAN SEA
AFRICA
ATLANTIC OCEAN
PACIFIC OCEAN
PACIFIC OCEAN
INDIAN OCEAN
SOUTH AMERICA
AUSTRALIA
Tropic of Cancer
Equator
Tropic of Capricorn
Antarctic Circle
ANTARCTIC OCEAN
ANTARCTICA

our own country. The lands which it touches are cooler than they would be without this cold current.

THE SEACOAST

In some ways the seacoast is as interesting as the ocean. The land along the sea is not the same everywhere. You may see low, flat, sandy beaches, and not far from them will be high rocky cliffs against which the ocean waves dash and break into white foam. Or there may be miles and miles of flat, muddy stretches, covered with tall water grass. These are called marshes.

The coast line, in places, is almost straight. At other points, long fingers of land, called capes, reach out from the shore into the water. Very large capes are called peninsulas. The country of Greece on the Mediterranean sea is a peninsula.

Where the ocean reaches far into the land, bays are formed. If the bays are deep and narrow, and are bordered by high, steep hills, they are called fiords. Bays and fiords protected from storm winds by the land about them make good harbors for ships.

MANY KINDS OF SHIPS

In the large harbors along the coasts are many kinds of ships. There are great ocean liners tied up at the docks. They are like beautiful floating hotels. Some of them are as long as two city blocks. Nearby are smaller freight steamers that carry goods all over the world. Perhaps there are a few ships with tall masts and many sails. Before the days of steamships, these sailing vessels carried both passengers and freight across the oceans. Now, the few that are left are used mostly for freight. Small fishing boats, most of them carrying sails, are here, too.

Tugs, strong little steamboats that tow other boats, puff noisily about the harbors. You may see them towing strings of several flat boats, or barges, fastened together and loaded with coal or sand or brick. Other tugs may be busy towing big ocean liners to their docks.

Then there are the pleasure boats of all sizes. Handsome yachts ride at anchor, waiting for their wealthy owners to come aboard. Beautiful sailing vessels skim about before the breeze. Tiny launches, driven by gasoline engines, glide in and out among the larger boats.

THE SAILORS' GUIDE POSTS

At the entrances to harbors, and at dangerous places along the coasts are lighthouses. A lighthouse is a tall tower with a powerful light at the top to guide ships and to warn them of rocks, reefs, and shallow places. These lighthouses are built and cared for by the governments of the different countries.

In some lighthouses the light blinks on and off. In others, it turns, throwing a beam of light in one direction after another. Sometimes a colored light is used. Each lighthouse gives a different light signal. Sea captains know these signals, which tell them where they are, and what dangers to avoid.

In foggy weather, when lights show only a short distance, fog horns and bells are also used to warn and guide the ships.

Not all parts of a harbor are equally deep. In most harbors, buoys are placed to mark the deepest channel, or passageway, through which the large ships must sail. Some of these buoys are just wooden stakes. Others look like large metal barrels. They show lights at night, and those at points of real danger have bells or whistles that sound continually.

Each harbor has its pilots—men who know the harbor channels, and the dangerous rocks and sandbars. They go out to meet incoming ships and guide them safely to their docks.

THE FISHING INDUSTRY

Many of you have gone fishing just for fun. But the people of some countries make their living by fishing. The ocean is a great source of food, including fish, clams, oysters, and lobsters. Some fish are caught along the shores. This is called "inshore fishing." When fish are caught far out at sea, it is called "deep-sea fishing."

At the mouth of the Gulf of St. Lawrence, off the eastern coast of Canada, is the island of Newfoundland. The water for hundreds of miles off Newfoundland's southeast shore is very shallow as compared to the rest of the ocean. This shallow area is known as the Grand Banks. Years ago, even before the coming of settlers to our country, the people of Europe went to the Grand Banks to fish. There they found immense schools of cod, halibut, and mackerel.

Some of the early colonists who settled in our country made their homes along the rocky northeastern coast, to which they gave the name New England. At first it was a struggle to keep alive. The sea offered them the best means of making a living. So, in the beginning, many of them built ships and became fishermen. The nearby waters were their fishing grounds, and the boats would come home laden with halibut, cod, herring, and mackerel.

As the colonists increased in numbers, more fish were needed, and the fishermen went farther away for their catch. They finally reached the Newfoundland banks, and to this day these banks are the best fishing grounds for the New England fishermen.

Though fishing was the chief industry of the colonists they needed other things besides food. So they built large sailing vessels, called schooners, and traded their products with countries across the sea.

Their life on the rocky coast, and their battles with wind and waves and storms, made these seacoast people strong, brave, hardworking, and independent. In the war for independence which came later, these qualities helped win the fight to make our country free.

Many of the descendants of the early colonists live today in the fishing towns along our northeastern coast, and make their living much as their forefathers did.

GLOUCESTER, A FISHING TOWN

One of the most important of the New England fishing towns is Gloucester. For over two hundred years Gloucester has been a fishing center. Hundreds of fishing boats fill its harbor.

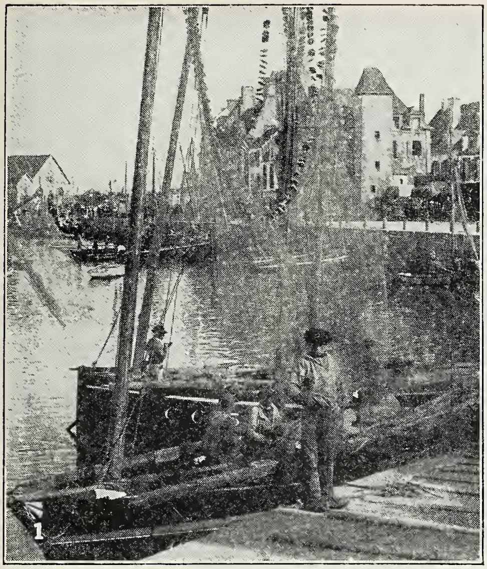
Fishing is still good along the New England shores and some of the fishermen go out each morning and return to their homes each night. Most of the Gloucester fishermen, however, go in their schooners to the Newfoundland banks. They stock their ships with food, and with salt for preserving the fish they catch. With plenty of lines and nets, they sail out of the harbor and are gone for weeks at a time.

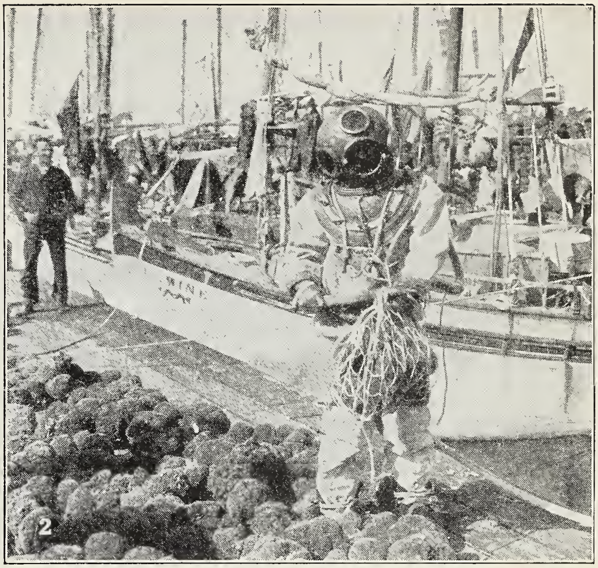
There is anxiety in the hearts of the fishermen's wives until the ships return home. The Grand Banks lie right in the path of many huge ocean liners that travel back and forth between America and Europe. Dense fogs cover the water during much of the year. The steamships, unable to see the fishing boats, sometimes plough right through them. Many fishermen lose their lives in this way.

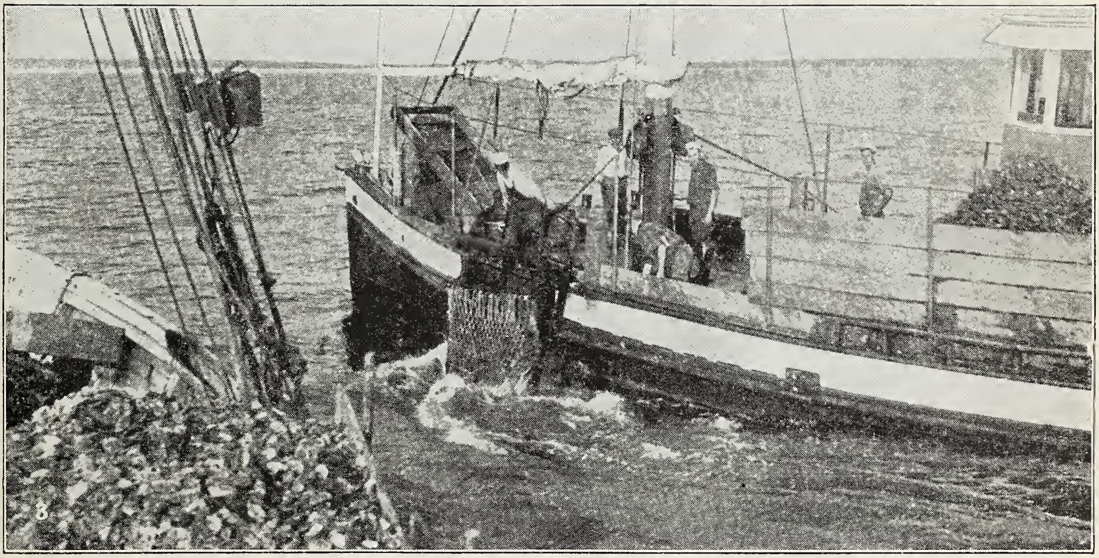
Though the fish are already cleaned when the boats unload them at the wharves, there is still much to be done. Some of the fish are packed in ice and shipped as fresh fish to all parts of the country. Some are "salted down" to preserve them. Others are dried or smoked, so that they will keep a long time. It is a common sight along the shores to see racks and racks of fish spread out to dry.

Then, besides caring for the fish, there are other industries to be carried on in a fishing town. The parts of the fish which are not fit for food are made into glue. The boats have to be kept in good condition. Nets, ropes, and other things needed by the fishermen are made in the factories of the town. Gloucester is a busy place.

FISHERMEN OF DIFFERENT LANDS







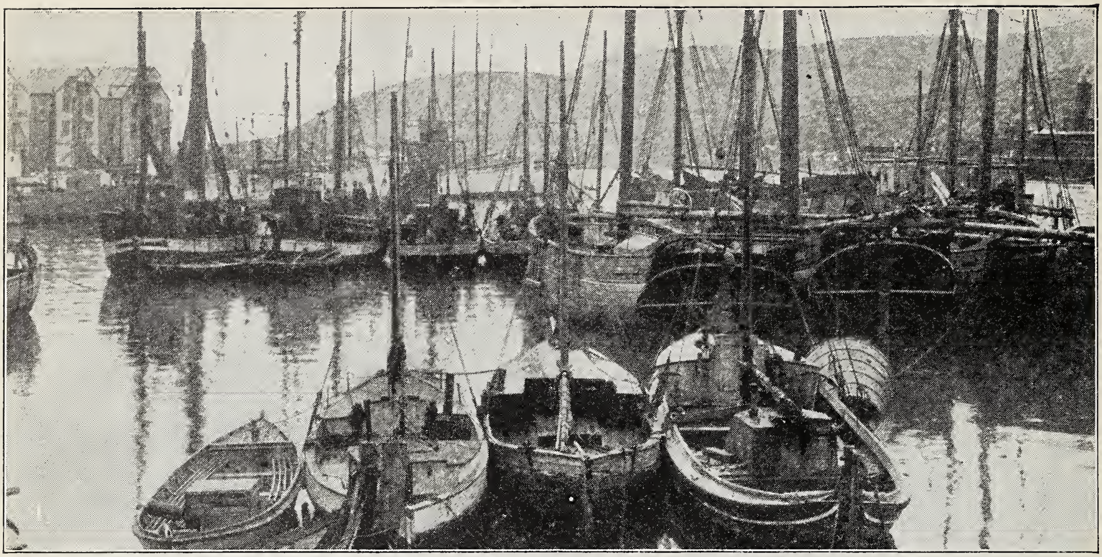
(1) (3) Keystone-Underwood, N. Y. (2) Publishers' Photo Service, N. Y.

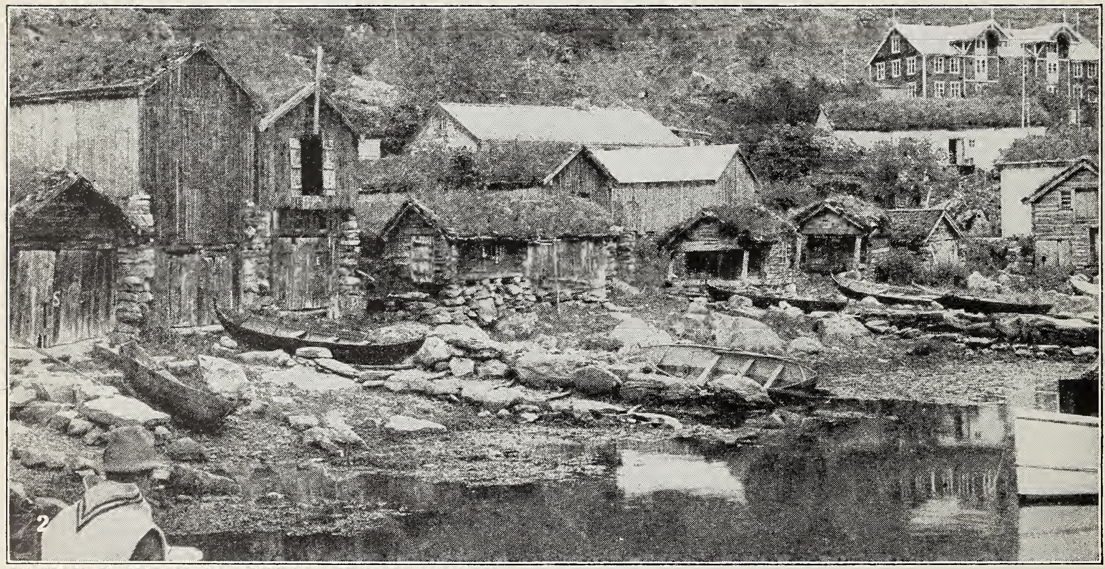
1. Sardine fishermen and their boats. Many sardines are caught off the coasts of France and Spain. These fishermen have come in from their early morning fishing. Between the masts of the boats the nets are hung to dry. The corks which you see strung on the nets keep them floating while in the water. Most of the sardines caught are canned in oil and are exported to other lands. Sardines are well liked in our country.

2. A sponge diver in Florida. This man's diving suit is heavy and uncomfortable but it makes it possible for him to work below the surface of the water. The helmet has glass windows so he can see his way along the sea bottom. The diver must have fresh air to breathe, and this air is pumped into the helmet through a hose attached to the back. The dead air goes out through another opening, called a valve, which does not allow water to flow in. Clasped in the diver's hand is the hook with which he tears the sponges from the rocks to which they cling.

3. Oyster fishing in Long Island sound. The oyster fishermen have been sailing their boats over the shallow waters where the oyster beds are planted. The men on one of the boats have just scooped some oysters from the bottom of the sound and are now pulling them into their boat. The decks of both boats are piled with oysters which have been gathered from the sea. The oyster beds of Chesapeake bay are even more important than those of Long Island sound.

FISHING VILLAGES OF NORWAY





(1) (2) E. M. Newman, from Publishers' Photo Service, N. Y.

1. A fishing fleet at anchor in one of Norway's harbors. Cod, herring, and many other fish are found in large numbers along the coasts of the North sea. Norwegian fishermen sail out in these boats to catch the fish. The fishermen use hooks and lines and nets. We can see nets hung to dry from the masts of a boat at the left. The fish which the boats bring in are cleaned and are spread on racks on the shore to dry. After they are dried, most of them are sent to countries whose fishermen do not catch enough fish for their own needs. Many of the people of Norway earn their living from the sea. For centuries the men of Norway have been sailors. Nearly a thousand years ago a band of daring Northmen landed on the shores of North America. This was long before any other Europeans had discovered our shores or even knew that our great continent existed.

2. A small fishing village in Norway. These huts and houses are built on the shore of a fiord, a deep bay extending far into the land. The fishermen anchor their sailing boats in the fiord, and row to the shore in rowboats. We see some of the rowboats pulled up on the bank. The rough huts near the water's edge are the boathouses in which the fishermen keep their boats, nets, and other fishing supplies. Some of the huts are made of wood and some are made of flat rocks picked up on the shore and piled one on another. The roofs are covered with grass, which has grown from seed brought by the wind. The homes of the fishermen are farther from the shore. To the right, in the background, we can see the building where the children of the fishermen go to school.

On the Grand Banks, the Gloucester fishermen meet fishermen from other parts of our land and from Canada. Most of the Canadian fishermen are descendants of the French, who first founded settlements in Canada. Many have their homes along the rocky shores of the island of Newfoundland. Because of its distance from the Equator and because of the cold Arctic current, the climate of Newfoundland is so cold that few crops can be grown. So the people are forced to get most of their living from the sea.

OTHER FISHING CENTERS

There are other great fishing centers for cod, herring, and mackerel, besides the Grand Banks. North of Europe, along the North sea, are rich fishing banks where the fishermen of England, the Netherlands, France, Norway, and other European countries go.

Many people of Norway make their living by catching fish. Norway is close to the fishing banks. Its seacoast, like our northeastern coast, is rocky. There are many deep fiords and safe bays. It is just the kind of country that makes sailors.

For hundreds and hundreds of years the Northmen have been brave and daring seamen. They were not afraid, like most people of early times, to go out across the ocean. Long, long ago they built strong little ships and ventured out in them farther and farther west. Nearly a thousand years ago they found the islands of Iceland and Greenland in the cold regions of the north. From there they pressed on and finally landed on the shores of North America, hundreds of years before any other people of Europe. The people of Norway still love the sea, and depend on it for much of their food.

Japan, a country of many islands off the eastern coast of Asia, is another great fishing center. Between the islands and the mainland, and protected from the winds of the ocean, is a large sea called the Japan sea. It is really a part of the Pacific and is rich with fish. Here the Japanese fishermen come in their small boats, which are not built to face the heavy storms of the open sea. They fish with hooks and lines and also with nets.

The catching of salmon is one of the most important occupations along the northwestern coast of North America. The salmon lives in the Pacific along the coast of Alaska, Canada, and the northwestern United States. Though a salt-water fish, at certain times of the year it leaves the ocean and swims up the rivers into small streams. Up rapids and falls it goes. Salmon have been known to leap falls ten and twelve feet high to reach the waters above. In the small streams the salmon lays its eggs. This is called spawning. It is in spawning time that the salmon are caught. Nets and traps are used for the purpose.

In the warm waters of the Caspian sea, southeast of Europe, men go out in boats to catch sturgeon. These are great fish, often larger than a man. When a sturgeon is hooked it takes many men to draw it to the boat.

Off Spain, you remember, fishing for sardines is common. They are caught with nets. Fishing is a very important industry of almost all seacoast countries.

OTHER SEA PRODUCTS

Oysters are one of the chief sea foods of our country. They seem to like the partly fresh water near the mouths of rivers. They are found in shallow water in bays along the northern half of our eastern coast. Chesapeake bay has the largest oyster industry, with Long Island sound second. The city of Baltimore on Chesapeake bay is one of the great oyster fishing centers of the world.

Men who make a business of oyster fishing scatter broken oyster shells over the bottoms of the shallow bays. Young oysters attach themselves to these shells and cling to them while they are growing. When the oysters are fully grown, they are gathered up by means of scoops or dredges. They are then packed in ice, and shipped all over the country.

Clams are found in the mud flats along the northeastern coast of our country. The fishermen go to the flats when the tide is out and dig for the clams, which are buried several inches deep in the mud. Great quantities of clams are gathered in this way. They are then shipped to different places to be sold.

Fish, oysters, clams, and lobsters are not the only creatures men take from the sea. Whales, great fishlike animals, live in the sea and are hunted in large boats. Whales are the largest animals in the world. They are most commonly found in the cold waters of the Arctic and Antarctic oceans. When a whale is sighted, a harpoon, or spear with a rope attached, is thrown or shot at it. If the shot is good the spear enters its flesh and holds there. Maddened by the pain, the wounded animal lashes the waters furiously. Sometimes he charges at the boat. Before the days of large boats, whaling was a dangerous business as many a small craft was wrecked by the swish of a whale's great tail.

After the whale is dead it is drawn up to the boat and either cut up there or towed to port. Valuable oil and bone are obtained from the bodies of whales.

The Eskimos, you remember, hunt the walrus and seal, both sea creatures, for food and for their bones and skins.

Off the southeastern coast of our own land, sponges are gathered from the bottom of the sea by divers.

These are but a few of the many, many things that come to us from the great oceans, and which form a large part of the industries of the coast towns.

OTHER SEACOAST INDUSTRIES

Living near the water, many of the people of the coast towns are engaged in shipbuilding. They not only build ships, but sail them to far-off lands, carrying to other nations the products of their villages and country, and bringing home goods which other peoples make and supply to them. Each nation, you see, makes use of the materials at hand, and trades its products for those of other lands.

I SHOULD REMEMBER

1. Oceans, seas, lakes, and streams cover about three times as much of the earth's surface as does the dry land.
2. The line where earth and sky seem to meet is called the horizon.
3. The water of the oceans is salty and not good to drink.
4. The ocean is always in motion. Even when there is no wind, there are low swells.
5. The ocean water rises and falls along the shore twice daily. The rise of the ocean is called flood tide. The fall of the ocean is called ebb tide.
6. Great streams, or currents, flow through the ocean. In some currents the water is warm. In others, it is cold. Warm currents make the nearby shores warmer. Cold currents make them colder.
7. The ocean shore has different forms. There are low sandy beaches, high rocky cliffs, and low marshes covered with tall grass.
8. The coast line in some places is straight, and in others is broken. Points of land extend into the ocean, forming capes. Very large capes are called peninsulas. Often the ocean reaches into the coast,

and bays are formed. Fiords are deep and narrow bays bordered by steep hills. Bays and fiords protected by land from the winds of the ocean make good harbors.

9. The ocean is a great source of food. Fish, clams, oysters, and lobsters are common forms of sea food. One of the greatest fishing grounds are the Grand Banks off the coast of Newfoundland.

10. Gloucester is an important New England fishing town. Some of the fish brought to Gloucester are shipped fresh to other parts of the country. Others are salted, dried, or smoked for future use. Glue is made from parts of the fish which are unfit for food.

11. North of Europe, in the North sea, are rich fishing banks. Fishermen from many European countries go there to fish.

12. Norway is close to the fishing banks of the North sea. It is a rocky country of deep fiords.

13. Salmon fishing is an important industry of the people of the northwestern coast of North America.

14. Japan, a country of islands off the eastern coast of Asia, is a great fishing nation.

15. Oysters are one of the chief sea foods of our country. They are found in bays at the mouths of rivers along our eastern shores.

16. Clams are found buried inches deep in the mud flats along the northeastern coast of our country.

17. Whales are hunted for their oil and bone. They live in the cold waters of the Arctic and Antarctic oceans.

18. The walrus and the seal are hunted by the Eskimos for food, and for their skins and bone.

19. Sponges are gathered from the bottom of the sea off our southeastern coast.

20. Other industries of the seacoast are shipbuilding and sea trade.

SOME THINGS TO TALK ABOUT

1. Land and water on the earth's surface.
2. Things to be seen on the seacoast.
3. Ocean currents and their effects.
4. How ships are guided into harbors.
5. Ships you have seen.
6. Industries at Gloucester.
7. Fishing on the Grand Banks.
8. Early voyages of the Northmen.
9. Fishing in other lands.
10. Other products of the sea.
11. Other occupations of the seacoast.

EXERCISE

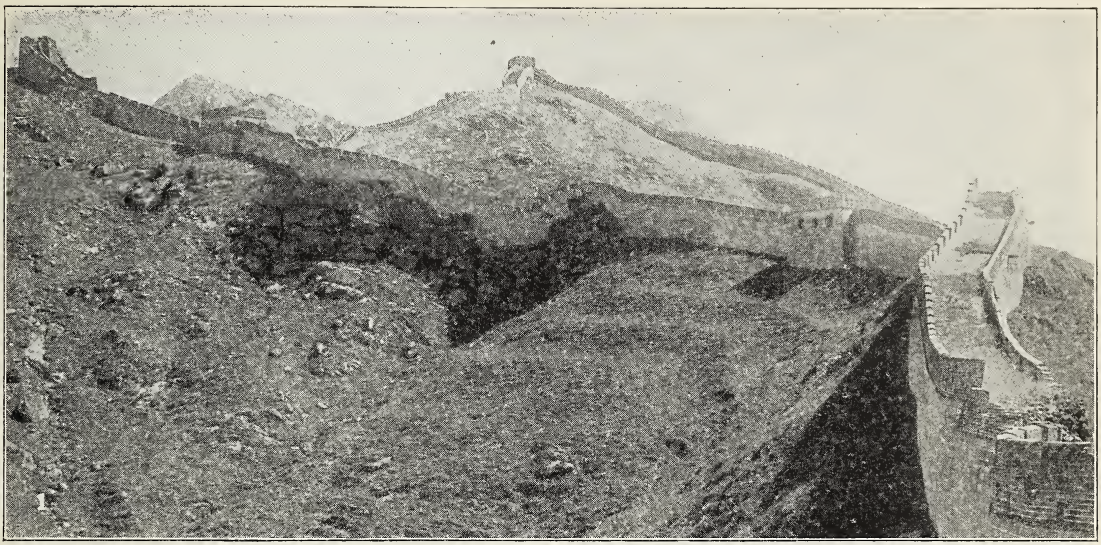
1. About what part of the earth's surface is covered by land? By water?
2. What is the largest body of water in the world? Point toward it.
3. Name the second largest body of water. Where does it lie? Point toward it.
4. How is the water of the ocean different from that of inland lakes and streams?
5. What is the horizon?
6. What are tides?
7. Tell briefly about the ocean currents.
8. How do ocean currents affect nearby lands?
9. Name three kinds of seacoast.
10. What is a cape? A peninsula?
11. What is a bay? What is a fiord?
12. Name several kinds of ships found in the large harbors of the seacoast.
13. What is a lighthouse? Tell two facts about lighthouses.
14. How are harbor channels marked?
15. What are pilots?
16. What great fishing grounds are near the Gulf of St. Lawrence? Describe them.
17. Tell about the life of settlers on the New England coast.
18. Tell about Gloucester.
19. Where do most of the Gloucester fishermen do their fishing? Name three kinds of fish they catch.
20. What is "inshore fishing"? "Deep-sea fishing"?
21. What is done with the fish which the ships bring home to Gloucester?
22. What other people besides the Gloucester fishermen fish on the Grand Banks?
23. Tell three things about Newfoundland.
24. Where are two other rich fishing grounds?
25. Tell about the coast line of Norway.
26. Tell briefly about the sea voyages of the early Northmen.
27. What great fishing industry is carried on along the northwestern coast of North America? Tell how these fish are caught.
28. What fish is caught in the Caspian sea?
29. How and where are sardines caught?
30. Where are oyster beds found? Clams?
31. What large sea animal is hunted for its oil and bone? Tell how it is captured.
32. Name two sea animals hunted by the Eskimos. What uses are made of them?
33. Name other industries of a seacoast people.

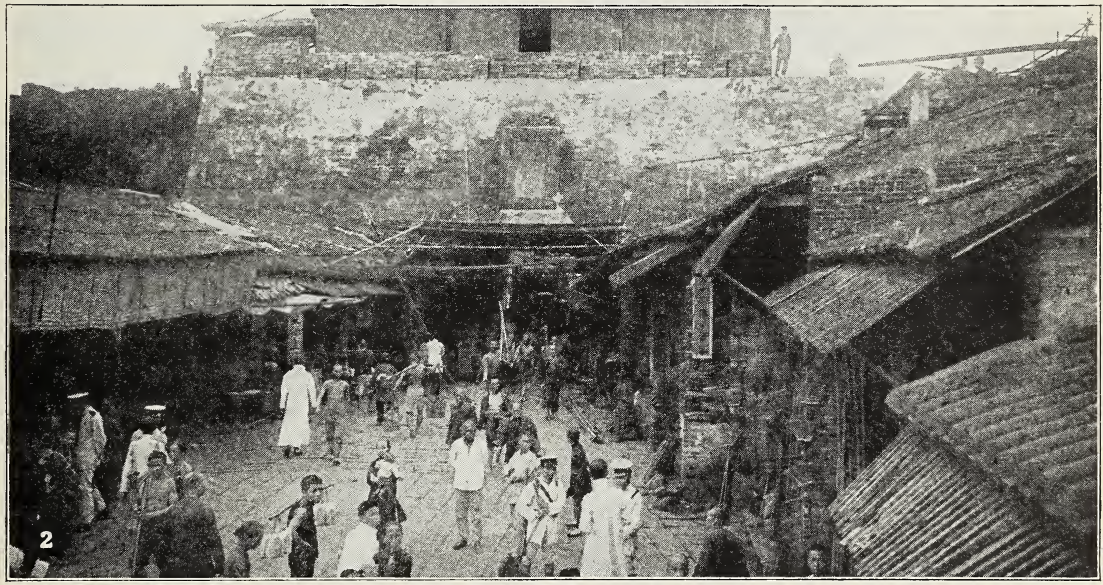
CLASS PROJECT

Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life on the seacoast and life in the other regions already studied.

THE SEACOAST OF NEW ENGLAND, NEWFOUNDLAND, OR NORWAY

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products



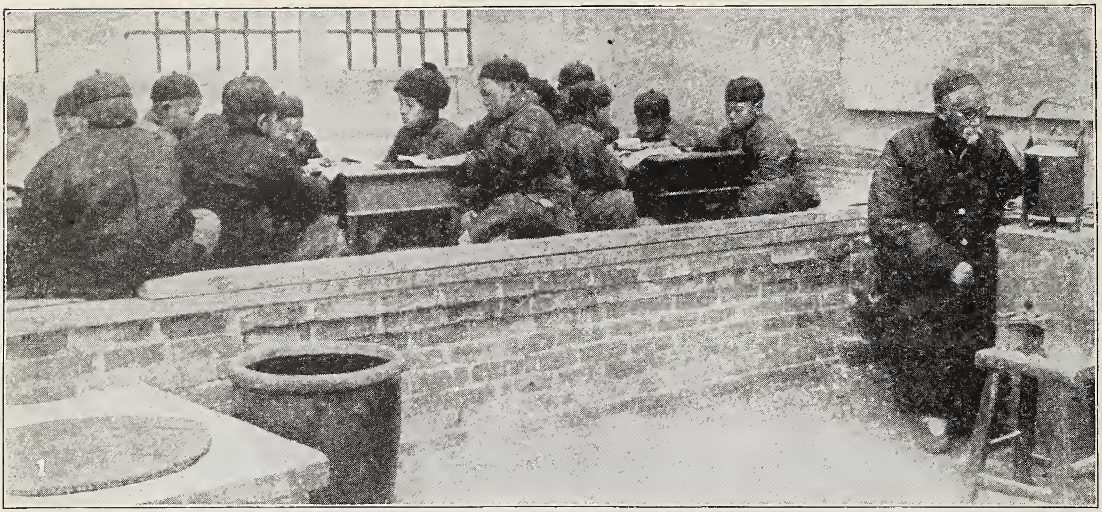


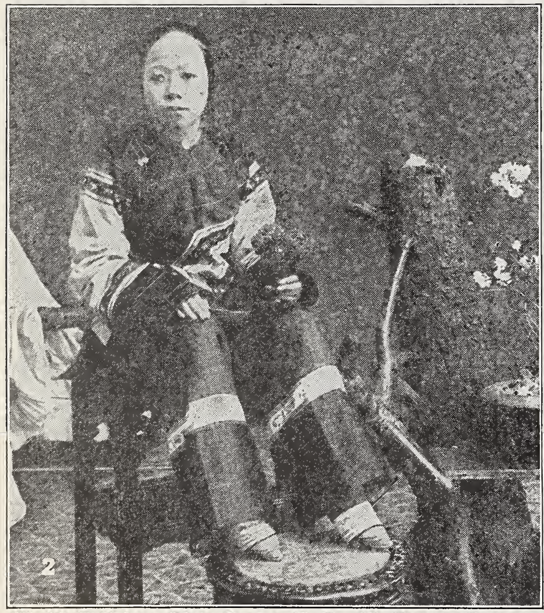
(1) (2) Copyright E. M. Newman, from Publishers' Photo Service, N. Y.

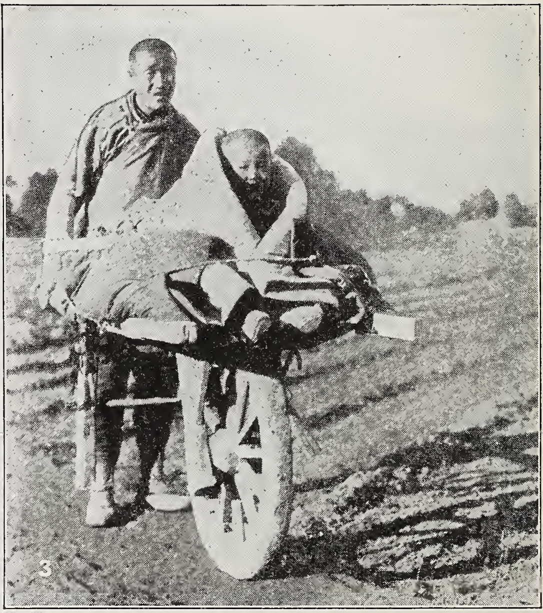
1. The Great Wall of China. This wall is over 1200 miles long. It was built by the Chinese hundreds of years ago to shut out fierce people who lived to the north. These people swept down in bands, robbing and terrifying the Chinese and burning their homes. The men who built this wall had to do all the work by hand, for they had no machinery. It took thousands of workmen a great many years to finish this task. When it was finished, Chinese soldiers were stationed at the gates and along the top of the wall to guard it. But though the Great Wall kept out small robber bands, it did not fully protect China. Several times, large armies succeeded in passing the wall and defeating the Chinese in battle.

2. A gate in the old city wall of Canton, one of the large cities of China. To protect themselves against robbers who came down from the hills to the west, the people of ancient Canton, like those of other Chinese towns, built a high wall about their city. Many of the city walls which the Chinese built still remain standing, but now they are of little use for protection. In the street shown in the picture are Chinese people of all sorts. Merchants have found this a good place to have their shops, because so many people pass through the gate. See the workmen who are carrying loads balanced at the ends of long poles slung across their shoulders. These men are called coolies.

THE PEOPLE OF CHINA







(1) (3) Publishers' Photo Service, N. Y. (2) Keystone-Underwood, N. Y.

1. A school in the northern part of China. Only a small stove heats this schoolroom. The children wear their little round hats and their coats to keep warm. The coats are made of two layers of cloth, padded with cotton. The Chinese have very little woolen clothing. They simply put on more cotton when the weather is cold. The school teacher, seated at the stove, wears the same kind of clothes as his pupils.

2. A Chinese lady in native costume. China was the first country to make silk, and the wealthy Chinese dress in the most beautiful silks they can buy. This lady is wearing a handsome, embroidered, loose silk suit, much like pajamas. See how tiny her feet are. It was once the fashion to strap the feet of little Chinese girls so tightly that they could not grow. This was done so that when the girls grew to be women they would have very tiny feet. The custom has been largely given up. Nowadays the feet of Chinese women are more like those of other people.

3. A poor Chinese farmer and his child looking for a new home. Few of the Chinese can afford to buy silks. Most of them are so poor that they must work hard even to live. Almost everything the man in this picture owns is piled on his wheelbarrow. His clothes are ragged and poor in quality, and he finds it hard to get food enough for himself and his child.

THE CHINESE

A PEOPLE THAT HAVE LIVED APART FROM THE REST OF THE WORLD

Have you ever thought how much you learn from other people and from visiting new places? When you play with new friends you learn new games. You learn to make many new things by seeing other people make them. You see and hear a radio and you want one at home. You ride in an automobile, a train, or a steamship, and you can understand how these have improved the earlier ways of getting about. In your travels and in your study of geography you learn how other people live. All this helps you in knowing how to live.

But suppose you kept away from other people and places. Suppose you knew little about the rest of the world. Suppose you knew nothing of railroads, or automobiles, or radios, or other useful machines. Do you think your life would be as enjoyable and comfortable as it now is? Of course not.

It is the same way with countries. The more the people of one country know about the people of other countries, and the more they meet and trade with them, the better off they are. But, if a country shuts itself away from other countries, after a time it is bound to fall behind the rest of the world in its ways of doing things.

CHINA—THE SHUT-AWAY LAND

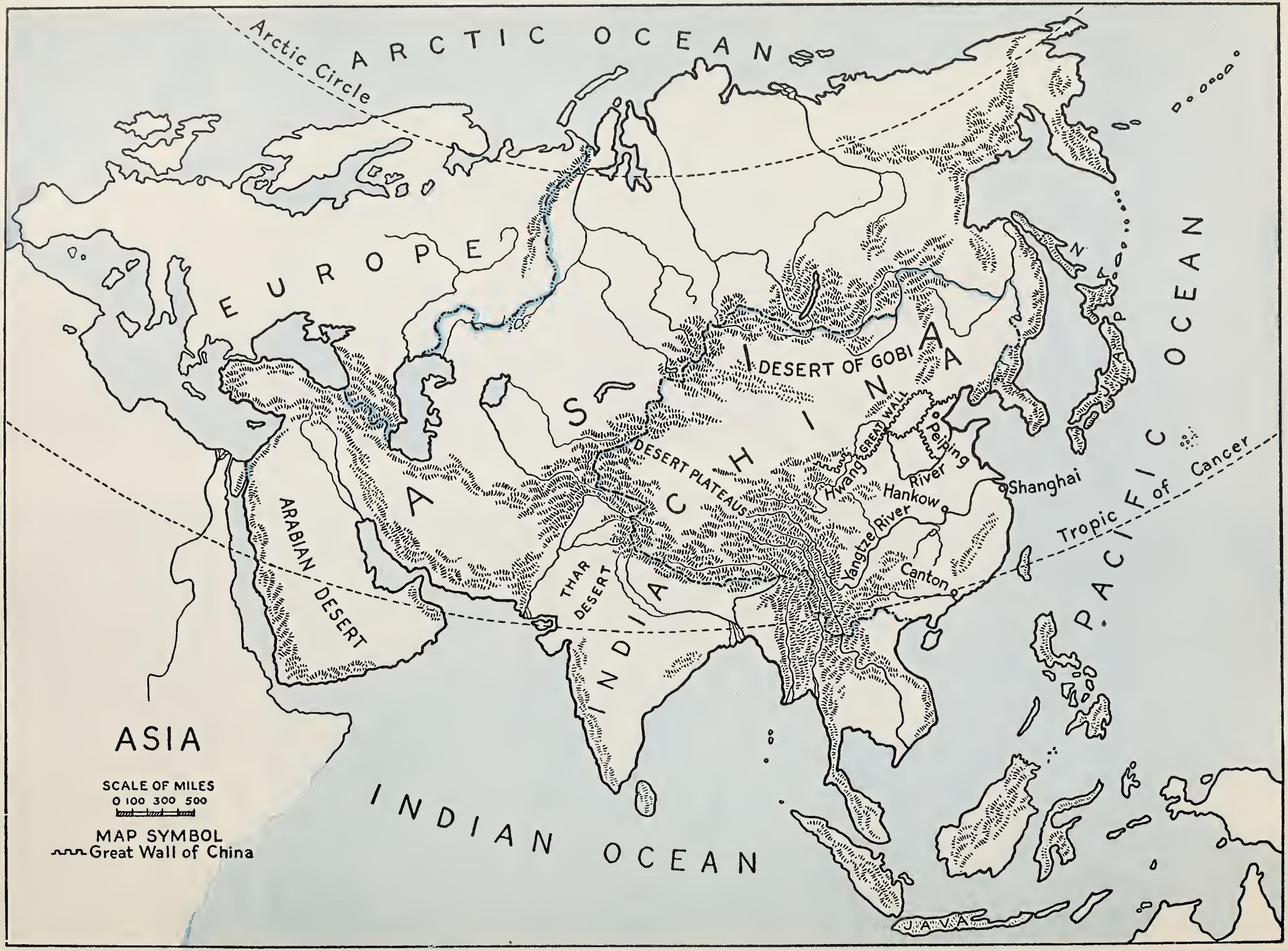
On the other side of the world from us is a country whose people, for centuries, have shut themselves off from the rest of the world. You can reach this country by going west across the Pacific ocean to the eastern coast of Asia. There you will find the huge land of China. More than one-fifth of all the people in the world live in a part of China which is about one-half as large as the United States.

For thousands of years the Chinese shut themselves up in the southeastern part of their land, away from the rest of the world. They did not know about the wonderful things other people were doing. There were reasons, of course, why they kept to themselves. To the west are high mountains and desert plateaus where few people can live. To the south are great jungles. To the east is the Pacific, and the Chinese had not learned to build ships for ocean travel. To the north was another country which could be reached across the plains, but the Chinese were so afraid of the people who lived there that they built a great wall to keep them out.

The Chinese did not travel much even in their own country. There was some travel by boat on the great rivers. Their roads were very poor. Most of the people walked when they had to go anywhere. Some hired others to push them in wheelbarrows, or to draw them in high, two-wheeled carts. Others traveled in chairs fastened to two poles, the ends of which were carried on the shoulders of men. Even goods were tied to poles and carried over the shoulders, or were packed on donkeys. Most people, however, just stayed at home.

Even today, in spite of the vast numbers of people living in China, there are few railroads. There are few good roads, and not many automobiles. Most Chinese still travel in the old ways.

In very early times, the Chinese learned to do certain things well, as they were very skilful. In some ways, for a time, they were ahead of all the rest of the world. The Chinese are the oldest civilized nation in the world. They were the first people to invent


ASIA
SCALE OF MILES
0 100 300 500
MAP SYMBOL
Great Wall of China
ARCTIC OCEAN
Arctic Circle
EUROPE
ASIA
CHINA
DESERT OF GOBI
GREAT WALL
Peiping
Shanghai
Hwang River
Hankow
Yangtze River
Canton
DESERT PLATEAUS
INDIA
THAR DESERT
ARABIAN DESERT
INDIAN OCEAN
PACIFIC OCEAN
Tropic of Cancer
JAPAN
JAVA

a compass. They were the first to use a printing press. They were the first to make fine silk. They early learned to make beautiful jars and tiles. They also learned to build wonderful buildings long before other countries did. They worked out many good rules for right living.

However, as time went on, the Chinese failed to learn what other countries were doing and thinking. They knew nothing about the many machines used in other countries which took the place of hand work. They simply went on doing the same things their fathers and grandfathers had done, and in the same way. Only in recent years have they been willing to have much to do with other nations. Though some of the cities now have factories where products are made by machinery, it will take a long time for China to catch up with the progress of the rest of the world.

APPEARANCE AND DRESS OF THE CHINESE

The Chinese people do not look like the people of our own country. They have straight black hair and yellow skin. Their eyes are almond-shaped and slant upward toward the outer edges. They look more like the Eskimos than any other people we have studied. The Chinese wear simple, loose-fitting clothes much like pajamas. Sometimes they wear flowing robes over these suits.

CHINA'S FARMS AND CROPS

Very many of the people of China are farmers. There are so many people in China that every bit of good land must be used to grow food. Terraces are even cut high up the mountains, to make more room for crops. Few cows and sheep are raised because ground cannot be spared for pasture. At most, a cow or a water buffalo is kept. Both these animals have to work, drawing plows or carts. Chickens and pigs are raised because they do not take up much room. The Chinese also raise several kinds of dogs for pets and watch dogs. Some of these dogs are now sent to other countries. Perhaps you have seen a brown Chow dog, or a tiny Pekingese lap dog.

Common crops raised in China are rice, tea, wheat, barley, many kinds of greens, beans and other vegetables. The Chinese are among the best gardeners in the world. Few animals are raised, so they live largely on their garden crops. In southern China their foods are mainly rice, beans, greens, and vegetable oil. In northern China little rice is used. Wheat, barley, a kind of corn, beans, and sweet potatoes are grown for food. It is so hard to move foods long distances that the people live on what they can grow best near home.

Besides their food products, the Chinese raise an immense amount of cotton and great numbers of silk worms. The cotton is mostly used in their own country, but Chinese silk is known all over the world.

Except that China has heavier summer rainfall than the United States, the same kinds of climate are found in the different parts of the two lands.

Just as the Nile gave Egypt her fertile soil, so two great rivers have given China her rich farming lands. These rivers are the Hwang and the Yangtze. Both rise far back in the mountains and flow eastward across China to the Pacific. When these rivers overflow their banks they often cause terrible floods. But they leave behind rich soil in which crops grow well. These rivers have also carried so much soil down to their mouths that they have gradually pushed the sea back and built up great low plains along the coast. So great are these plains that cities which were once on the seacoast are now many miles inland. The plains are used as rice fields.

Rice is a swamp plant and grows best on wet lands. The Chinese rice farmers make their fields perfectly flat. Then they build low walls of clay around them. After this they flood their fields by letting in water through canals leading from the rivers. Sometimes they have to pump or carry the water by hand. In the shallow water they set out the rice plants. When the rice is ripe they drain off the water, gather the stalks, and leave them to dry. Later, they thresh, or beat out, the rice grains by hand.

As soon as the rice crop has been harvested, the farmers dig up their fields and plant wheat or barley. In this way they make their fields give them two different crops each year.

Tea is a very important crop in China. The Chinese are great tea drinkers. They also send much tea to other countries. The tea is made from the leaves of a bush. The seeds are first planted thickly in small beds of very rich soil. When the tiny plants are well sprouted, the farmer replants them quite close together in his field, and cares for them very carefully. No leaves are picked until the plants are three years old. After that the Chinese women and children go into the fields three times a year to gather the leaves.

In preparing leaves for black tea the leaves are dried in the sun. Then they are put between rollers that roll them until they curl up. After that they are roasted over a fire until they turn black. They are then packed in tight boxes which keep out moisture. In preparing the leaves for green tea, the leaves are roasted or steamed as soon as picked. Later they are rolled and roasted again.

HOUSE BOATS

The land of China is so crowded that many people live all their lives on small boats called sampans. Hundreds of these little boats line the river banks. They are moved by pushing them along with long poles which reach to the river bottom. Then, too, there are larger sampans and junks, which carry goods up and down the rivers. Junks are large boats with masts and odd square sails. Often, if the wind fails or blows the wrong way, men on shore pull the boats along with ropes. The rivers of China are very, very busy places.

GREAT CITIES OF CHINA

With so many people there are sure to be many cities. The largest of these cities are near the rivers, where the trade is greatest. Shanghai, at the mouth of the Yangtze, is the chief seaport. Six hundred miles up the river is Hankow. Ocean steamers can sail all the way to this city. Peiping in the north, and Canton in the south of China, are other important cities.

A HARD-WORKING, THRIFTY PEOPLE

Most of the Chinese are hard workers. They work for very low wages. Often they get only ten or fifteen cents a day. Yet the Chinese live on these small sums, for they are very careful and thrifty. Their food, as we have seen, is simple. They wear cheap clothes. They live in boats or in little houses with walls of brick or clay, roofs of tile, and plain earth floors.

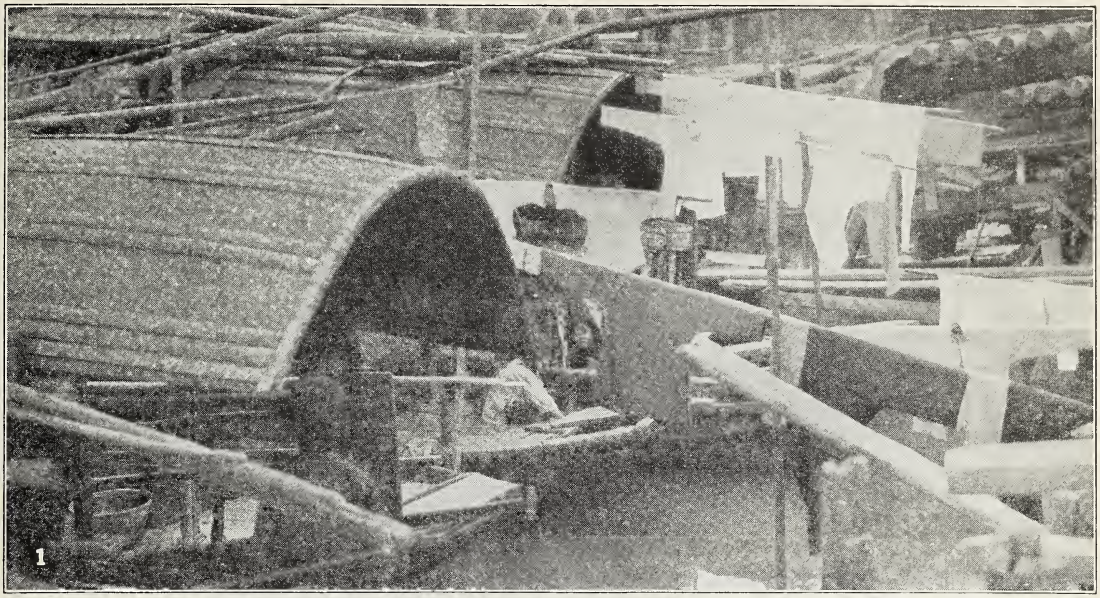
There are, however, rich and well educated people in China. Many of them are great merchants or traders, who live in large, fine houses, surrounded by high walls and beautiful gardens.

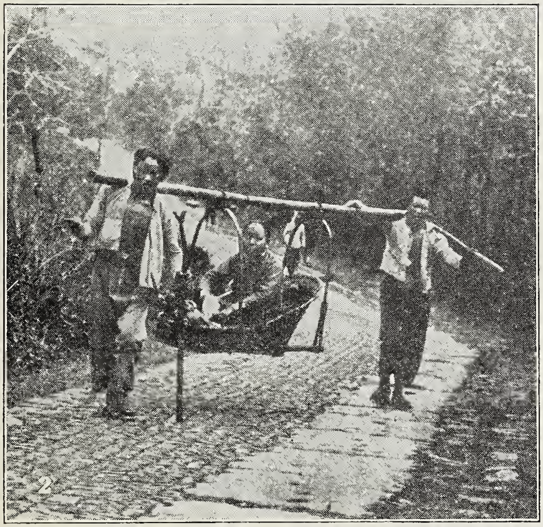
CHINESE EDUCATION

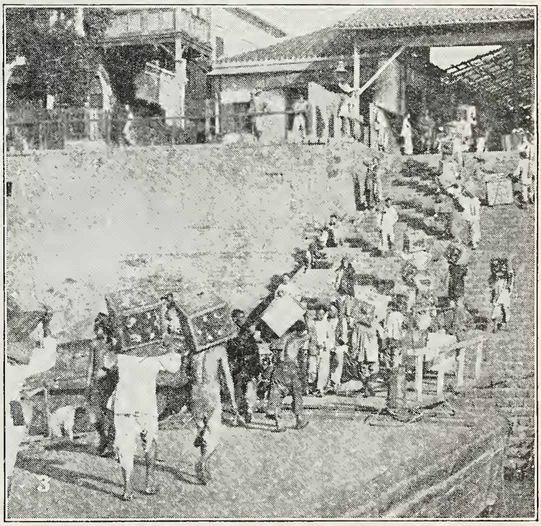
For thousands of years the Chinese students have studied mainly the writings of Confucius. He was a wise man who lived about 500 years before Christ. Many of his writings tell how he thought men should live and act. The Chinese felt that all they needed to study was found in these writings and in the writings of a few other early Chinese. They were not interested in what the rest of the world was learning.

The Chinese do not have an alphabet. They use a different sign, or mark, for each word. The mark for each word has to be learned separately. Chinese writing is written or printed in a strange way. The words start at the top of a page and run down in columns. But the column at the right side

CHINESE WAYS OF LIVING AND WORKING







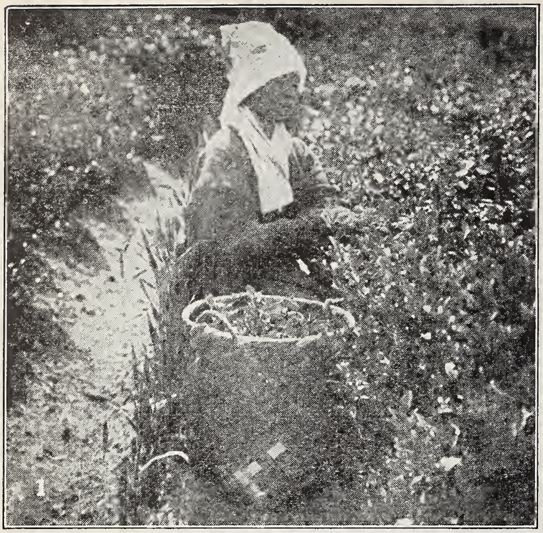
(1) (2) Publishers' Photo Service, N. Y. (3) Keystone-Underwood, N. Y.

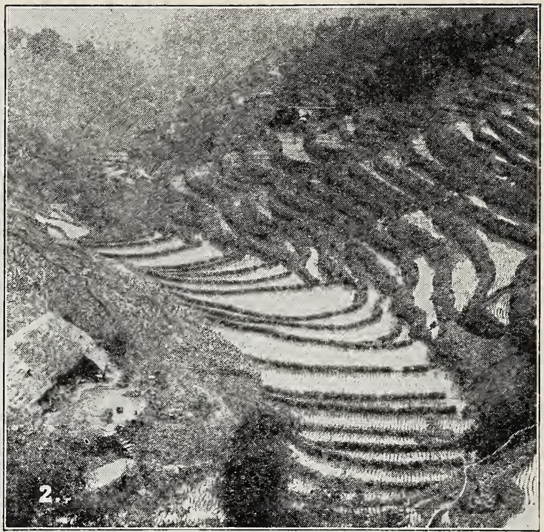
1. Houseboats, or sampans, on a Chinese river. Eastern China is so crowded that there is not enough land for all the people. Many of them live all their lives on small boats and never have any other homes. These boats are tied up along the water front of the city of Canton. They are packed so close together that the people can easily walk from one to another. Two children in different boats are playing together. Some of the houseboat women have done their washing in the river water, and have hung out the clothes to dry on long bamboo poles.

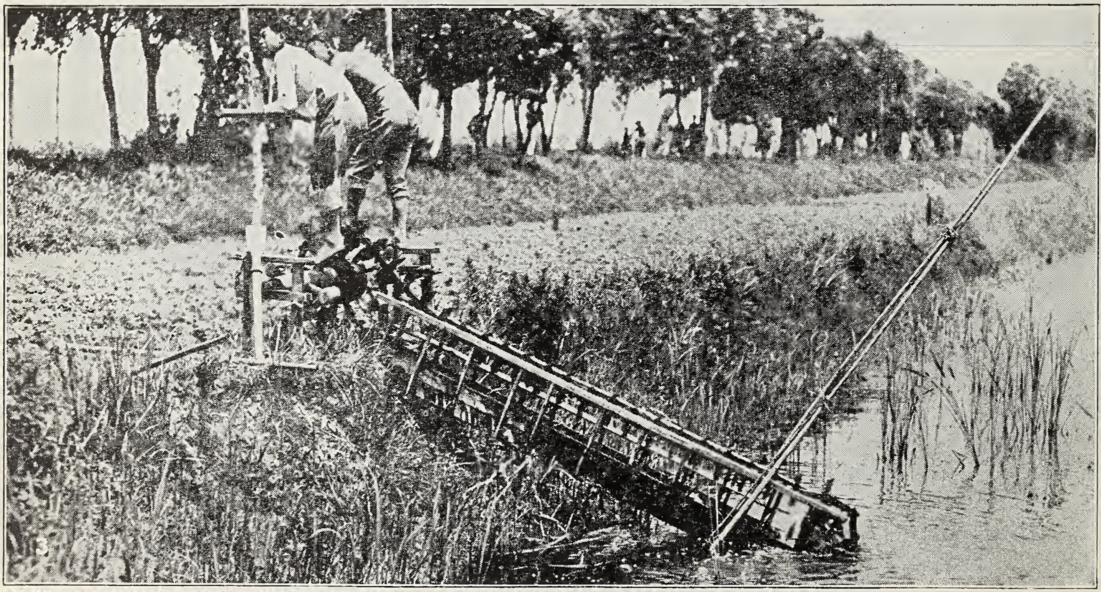
2. A Chinese woman and her servants. Even the wealthy Chinese still cling to the old ways. Automobiles are but little used. When this woman wants to make a call, she steps into the basket-like chair you see fastened to the pole. Then the men take the pole on their shoulders and jog along to the neighbor's house. This does not look like a very comfortable way to ride, and it is very slow going. It will be a long time before China wholly adopts modern ways of travel.

3. Chinese coolies carrying goods from a ship. The great chests these men are carrying are full of tea. Nearly all the work of loading and unloading ships in China is done by coolies, as the poorly-paid workmen are called. They carry the heaviest loads, and for a few cents they are willing to work all day. In countries where there are fewer people and labor is more expensive, work like this is usually done by machinery.

FARMING IN CROWDED CHINA







(1) Keystone View Co., N. Y. (2) By Ewing Galloway, N. Y. (3) Publishers' Photo Service, N. Y.

1. Picking tea leaves in China. The women and children who pick the tea are skilful and patient. They go through the tea fields three times a year, picking only the leaves that are just right for making tea. After the leaves are picked, there is much to be done to them before they can be shipped to market as black tea or green tea. Tea is a very important crop in China. Much of it is used at home, but large amounts are shipped away.

2. Terraced fields in China. There are so many people in eastern China that there is not enough land to raise all the crops needed. To make every bit of land useful, level places, called terraces, are cut in the hillsides, and around them low clay walls are built. In these terraced fields the farmers raise rice and other crops. One farmer has cut a terrace directly in front of his home.

3. A Chinese irrigating machine. These farmers are using their own weight to pump water up to a field. With their feet they turn a wheel over which a belt with paddles moves down into the water and up again. These paddles push the water through the trough from the canal below. The men must work at this task for a great many hours before their plot of ground will be wet enough. In Egypt, buffaloes or camels are used on the machines which raise water to the fields. But in some parts of China ground cannot be spared for pasture, so the farmers cannot keep work animals. For this reason, they have to do all the hard tasks themselves.

of the page is read first, then the next column to the left, and so on. How different from our books!

Now, China is educating her young people in a new way. Every year she sends many Chinese students to America and to other countries to study in the schools and colleges. When they have learned about the world outside of China, they return home and teach these things to the other young people of China.

When the Japanese attacked China during World War II, the Chinese people learned about many things concerning which they had known very little before. They saw many airplanes, tanks, and motor trucks. They had to build factories to supply war materials for the Chinese armies. They came to know soldiers and other people from many different lands. The war did great damage to China and brought death and suffering to large numbers of her people, but it did teach the Chinese to be a little more like the people of other nations.

I SHOULD REMEMBER

1. A country which shuts itself away from other countries falls behind the rest of the world in its ways of doing things. China, on the east coast of Asia, is such a country.
2. More than one-fifth of all the people in the world live in a part of China which is about one-half as large as the United States.
3. High mountains and desert plateaus on the west, jungles on the south, the Pacific ocean on the east, and a great wall the Chinese built on the north have shut them off from other countries for thousands of years. Only recently have they been willing to become acquainted with other nations and the modern ways of making things by machinery.
4. The Chinese were the first to invent a compass, to use a printing press, and to make fine silk. They made beautiful tile and built wonderful buildings before many other peoples did these things.
5. The Chinese have yellow skin, black hair, and slanting eyes. They wear simple, loose-fitting clothes.
6. Many Chinese are farmers. They use all the good land and even cut terraces into the mountains for growing crops.
7. The Chinese raise rice, tea, wheat, barley, greens, beans and other vegetables, cotton, and silk worms.
8. China's great rivers, the Hwang and the Yangtze, overflow and deposit rich soil for crops. These rivers have built up great plains at their mouths. Here rice is grown.
9. Tea is made from the leaves of a bush. The leaves are dried, rolled, and roasted, and then packed in tight boxes for shipment.
10. Many Chinese live in small boats, or sampans. Much of the trading in China is carried on by large sampans and junks which go up and down the rivers.
11. There are many cities in China. Shanghai, on the coast, and Hankow, 600 miles up the Yangtze, are great trading ports. Peiping and Canton are other important cities.

12. The Chinese have no alphabet. They use a different sign, or mark, for each word, and write these signs in columns.

13. Now, China is educating many of her students in America and other lands, where they learn about the outside world and then return home to teach.

SOME THINGS TO TALK ABOUT

1. How we learn from other people.
2. Travel in China.
3. How the Chinese use their land.
4. The raising of rice.
5. The story of tea.
6. River life in China.

EXERCISE

1. Where is China? Point toward it.
2. In what direction does China lie from each of the other countries you have studied?
3. Tell how the Chinese shut themselves away from other countries.
4. Tell briefly about Chinese methods of travel on land.
5. How are goods carried in China?
6. Name three things the Chinese did before other peoples.
7. How has the life of the Chinese been affected by their being shut away from the world?
8. Describe the Chinese people.
9. Why do the Chinese use every bit of good land for farming?
10. Why do they raise few cows and sheep?
11. What animals do they raise?
12. Name five crops raised in China.
13. Name two great rivers of China.
14. Tell how these rivers have added to the lowlands of China.
15. Tell about the Chinese river boats.
16. Name two great trading ports of China.
17. What is the common wage of a Chinese worker?
18. How do the Chinese live on the small sums they earn?
19. Who was Confucius?
20. Tell three facts about Chinese writing.
21. Why is China sending young people to other lands to be educated?

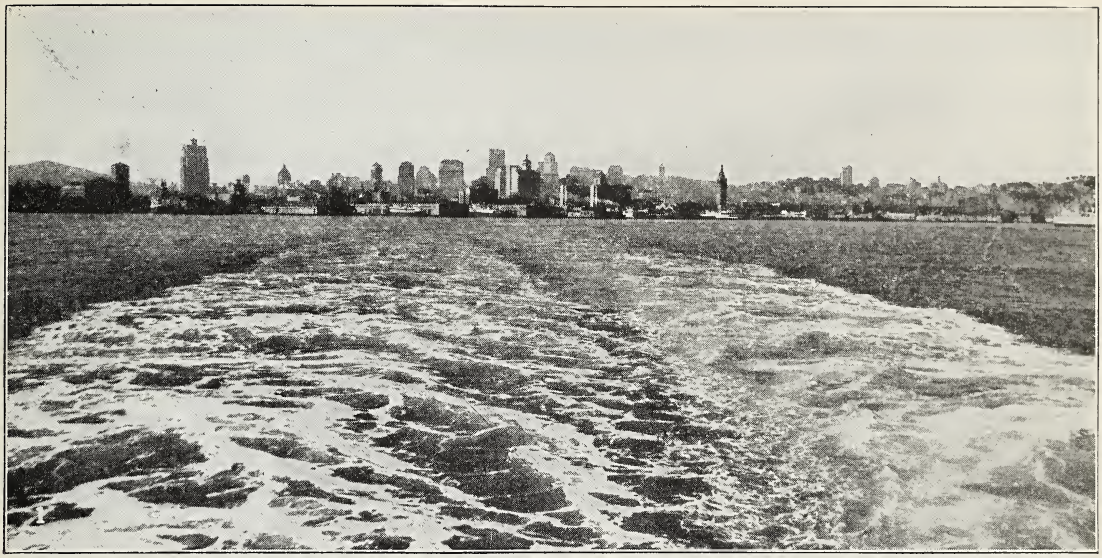
CLASS PROJECT

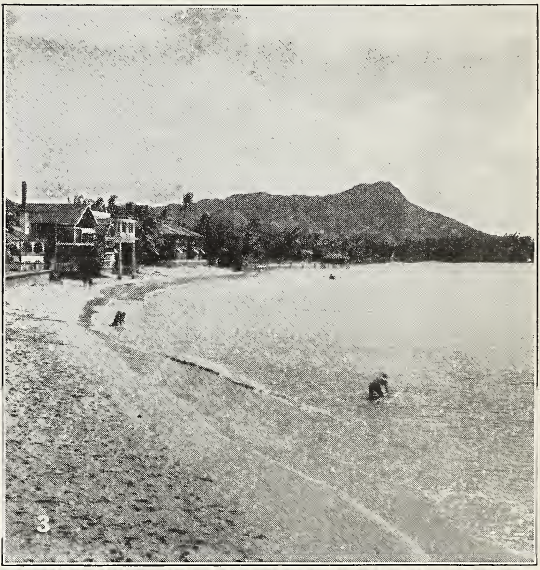
Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in China and life in the other regions already studied.

CHINA

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products

OUR TRIP TO AUSTRALIA





(1) San Francisco Chamber of Commerce. (2) Publishers' Photo Service, N. Y. (3) L. Green, from Publishers' Photo Service, N. Y.

1. Leaving San Francisco. Our long trip to Australia began when we stepped on board the train at New York on our way to San Francisco. Now we are on board ship and are leaving this western city behind. Our ship steams across San Francisco's beautiful bay, through the Golden Gate, and into the Pacific ocean. We stand at the rail and watch the tall buildings of the city until they disappear in the distance. Our steamer is big and comfortable. It has wide decks where we can walk and play games when we are tired of looking at the sea. This is fortunate for Australia is nearly 6700 miles away and the ship will be our home for three weeks.

2. A view of Hawaii, the largest of the Hawaiian islands. Several days' sailing from San Francisco has brought us to these islands, which belong to our country. We find the climate warm, as the islands are in the Hot belt of the world. See the large plants that look like huge blades of grass! They are sugar cane, from which sugar is made. There are immense fields of sugar cane in the Hawaiian islands.

3. A famous beach at Honolulu. We land at Honolulu, the largest city of the Hawaiian islands. In this city of about 180,000 inhabitants we see people from many countries. There are brown-skinned native Hawaiians, white people, and Japanese. The beauty of the islands, their broad sandy beaches, and their warm climate draw many visitors.

OUR TRIP TO AUSTRALIA

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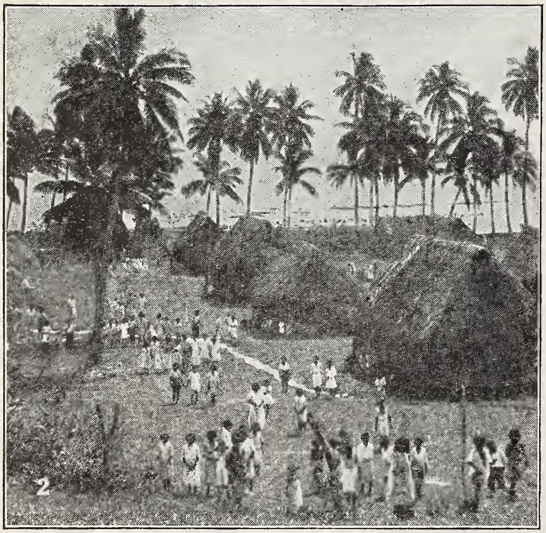
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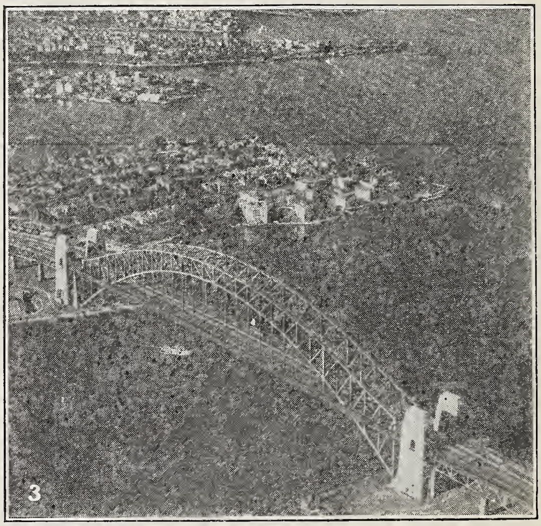
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(1) Hawaii Tourist Bureau. (2) By Ewing Galloway, N. Y. (3) Australian News and Information Bureau, N. Y.

1. Eating pineapple in the field. Many of the pineapples which we eat come from the Hawaiian islands. During our stay in Honolulu we drive to a plantation where pineapples are grown. A plantation worker pares and slices a ripe, juicy pineapple fresh from the plant, and we eat the sweet slices. The pineapples are prepared and canned in factories right at the fields. Many people on the islands make their living in the pineapple industry.

2. A Fiji island village. Nine days after leaving Honolulu we reach the Fiji islands, which belong to England. Not so many years ago, the people of these islands were cannibals. Missionaries went there and risked their lives to teach the people. Most of the natives are no longer cannibals. Many of them have learned to wear clothes and to keep their homes and villages clean. Their huts are made by covering a rough framework of wood with bunches of long grass.

3. The harbor of Sydney, our journey's end. Sydney is the largest city in Australia, with a population of more than 1,300,000. It is an important seaport. The city is located on a bay which has several smaller bays, like those you see in this picture. The harbor extends deep into the land and is very beautiful. The wharves, which lie along the water front of the business section, are busy with cargoes being loaded and unloaded. Small steamers carry people from shore to shore.

AUSTRALIA

A TRIP TO AUSTRALIA

THE ISLAND CONTINENT

Southeast of Asia, between the Pacific and Indian oceans, lies the island continent of Australia, whose people are much like Americans in many ways. Australia is a sunny open land, almost as large as the United States. It has many wonderful animals and birds, such as the little koalas, which look like toy teddy bears, the kangaroos, and the bird called the laughing jackass, which laughs and kills snakes.

The map shows that Australia is far from the United States, but fast modern airplane services cover the distance regularly in less than three days. It is possible to air-mail a letter from San Francisco to Australia and get a reply back within a week.

HOW TO REACH AUSTRALIA

Because the earth is round, we Americans might go either east or west to reach Australia. If we go by way of Europe, we will pass some places we have already visited. Sailing from New York—our greatest port—we will cross the Atlantic ocean, and pass through the Strait of Gibraltar. Perhaps we will stop at Gibraltar to see its famous rock. Then on we will sail through the Mediterranean sea and through the Suez canal into the Red sea. While passing through the canal we can catch glimpses, right from the steamer's deck, of desert lands and desert life.

Sailing down the Red sea, we will have Asia on our left and Africa on our right. Passing through another strait, we enter the Gulf of Aden, and then sail out into the Arabian sea. The Arabian sea will lead us into the Indian ocean, and when we have crossed the Indian ocean we reach Australia.

Instead of sailing by way of Europe, we might sail southeast across the Atlantic ocean, around the southern point of Africa, and then straight east across the Indian ocean to Australia.

Both these routes are very, very long. It will save us thousands of miles if we go from New York to San Francisco by train, and then sail southwest over the Pacific ocean to Australia. We could reach the Pacific ocean by going through the Panama canal, but the journey by train across the continent is much quicker.

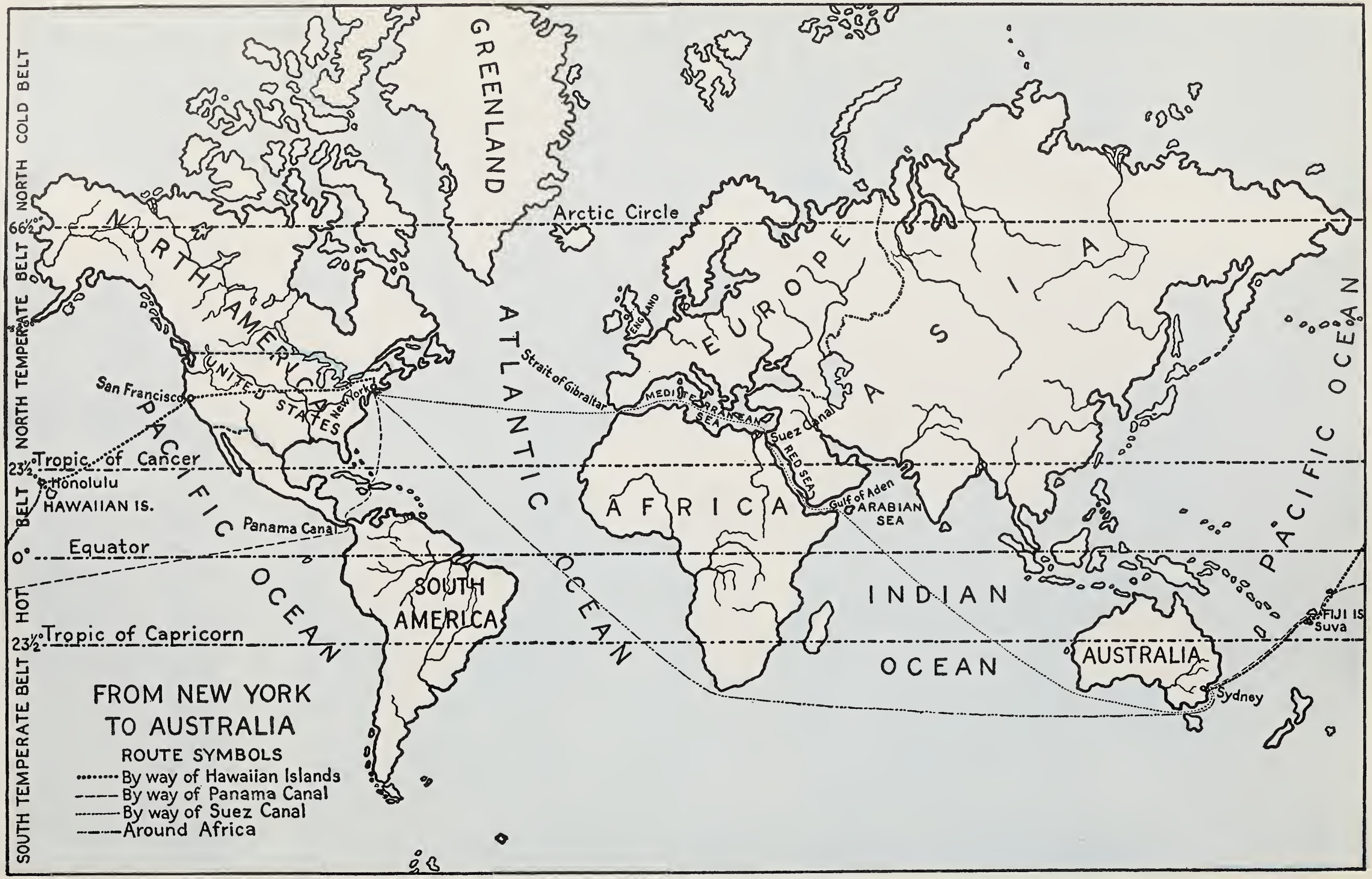
FROM NEW YORK TO SAN FRANCISCO

When we traveled by automobile over the Lincoln highway from New York to San Francisco, the trip took us over two weeks. Let us go on one of the fast trains, which covers this distance in three days.

TRAVELING BY TRAIN

As soon as our train is ready, we board a Pullman sleeper and find our seat on one side or the other of the aisle. Each seat is wide enough to hold two people, and each has another seat facing it. At night the cushions of these two facing seats are made into a bed or berth. An upper berth pulls down over the lower berth. Curtains are then hung in front of the berths so that each person is shut snugly away by himself. At either end of the car is a washroom.

Ahead of our Pullman car we find the dining car. Here we can sit at one of the tables beside a window and enjoy the scenery



This map of the world is called a Mercator map. It includes in one map picture all the continents and oceans, but does not show them in their true shape or size. Along the Equator distances are correct. The farther any land is from the Equator, however, the larger and more out of shape it is. Thus the island of Greenland, while actually only one-fourth as large as Australia, is very much larger on the map. From this map you can see how you might travel from New York to Australia. Look at the map symbols and then follow each of the four routes from New York to Sydney.

as we eat our meals. At the rear of our train is the observation car with comfortable wicker chairs, writing desks, and even magazines to read. There is also a rear platform where we can sit outside and look off. A steam locomotive pulls the train, hauling us along at about seventy miles an hour.

We pass long freight trains, often with a hundred cars, or more. Think how many, many goods must be carried by freight to fill all these cars!

Day and night we travel across plains, over rivers, and through wonderful farming lands and busy cities. We see, of course, many of the sights we saw on our automobile trip. Then we cross the great western mountains, seeing wonderful gorges and waterfalls and heavy forests.

Finally, we reach San Francisco and, ticket in hand, board the ocean steamship which is to take us on our journey.

FROM SAN FRANCISCO TO HONOLULU

What a long ocean voyage we have ahead of us. The ship must carry us nearly 6700 miles, and it will take three weeks to reach Australia.

ON BOARD STEAMSHIP

Though not as large as the giant liners which cross the Atlantic, our ship has several decks and three huge smokestacks. We find even greater comforts than on the train. There are cozy staterooms, with beds, chairs, closets, and nearly all the comforts of a large hotel. There is a beautifully decorated hall where entertainments and meetings are held. There is a large dining room with rows and rows of tables.

The decks are wide and long. Here we can walk, or play games. Some ships even have splendid swimming pools. There is something to do every minute. And how hungry we get in the salt sea air!

Southwest we go over the Pacific, at a rate of about twenty miles an hour. Now and then we pass a sailing vessel or another steamer. Each day we find the weather getting warmer and warmer. Finally we sight a group of islands far ahead. These are the Hawaiian islands, 2100 miles southwest of San Francisco. On the sixth day out we reach them. It has taken longer to get to these islands than to make the 3300 mile train trip across the United States.

THE HAWAIIAN ISLANDS

The Hawaiian islands lie wholly in the Hot belt, so the weather is warm all the year round. We are told they have wonderful level, sandy beaches, dense forests, tall mountains, and even live volcanoes. As we draw near the islands we can see great fields of sugar cane and pineapples. Finally we land at Honolulu, the largest city of the islands. We see many American flags flying, for these beautiful islands belong to our own country.

HONOLULU

Honolulu contains about 180,000 people. It is a busy city that looks much like our cities at home. Although there are many white people, we see also many brown-skinned natives and many yellow-skinned people, mostly Japanese.

FROM HONOLULU TO SYDNEY

Soon we return to the ship and sail on. The vessel heads more nearly south now and will not stop again for eight days. We see few ships, but now and then we pass small green islands. The weather gets hotter and hotter, and the sun beats almost straight down from overhead. On the fourth day from Honolulu we cross the Equator. After that the weather grows slightly cooler, although we are still going south. This seems strange until we remember that when we go south from the Equator to the South Pole, the weather changes from hot to cold in the same way as when we go north from the Equator to the North Pole. The climate and seasons are just opposite from our own.

As we sailed farther and farther south, the North Star came closer and closer to the northern horizon, and when we crossed the Equator it entirely disappeared from sight. Someone points out to us, however, a group of stars to the south called the Southern Cross. People in the southern part of the world, we learn, use these stars to find which direction is south, just as we use the North Star to know which way is north.

FIJI ISLANDS

On the ninth day out from Honolulu we arrive at the Fiji islands. There are one hundred and twenty-five of these islands, clustered close together. Our ship stops at Suva, the capital city. Here there are many brown men and a few thousand white men, mostly Englishmen. The islands belong to England.

After a short stop at Suva we sail on again. Now we move southwest across the southern Pacific. Each day the weather grows cooler. Soon we cross from the Hot belt into the South Temperate belt, where the sun is never directly overhead.

SYDNEY—OUR JOURNEY'S END

At last, on the sixth day after leaving Suva, we enter the fine harbor of Sydney, a great seaport of Australia. Here we find steamers loading and unloading goods at great piers. Our good ship ties up at her own dock and we set foot on Australian soil, twenty-one days after leaving San Francisco.

IF WE HAD GONE BY AIR

Until a few years ago, there was no other way to reach Australia from our country. One had to go by boat or not at all. Today, however, a person can go by airplane much more quickly, making stops at the Hawaiian islands, at a few small islands in the South Pacific, and at New Zealand. There is regular airplane service between Australia and the United States and also between Australia and Europe.

Our trip by boat from San Francisco to Sydney took us twenty-one days. In the fall of 1946, an airplane made the much longer trip from Perth, Australia, to Columbus, Ohio in only fifty-five and a quarter hours, which is a little over two days. On this long flight of 11,236 miles not a single stop was made! The boat trip is very pleasant, but people who are in a hurry will find that it takes only about one-tenth as long to make the journey to Australia by air as it does by sea.

I SHOULD REMEMBER

1. Australia is the smallest continent. It is an island lying between the Pacific and Indian oceans.
2. Australia may be reached from the United States by an eastern or a western route. The western route, by way of the Pacific, is shorter.
3. The Hawaiian islands are in the Hot belt, 2100 miles southwest of San Francisco. Sugar cane and pineapples are raised on the islands. Honolulu is the chief city. The islands belong to our own country.
4. South of the Equator the climate and seasons are just opposite from our own. There, one travels north to warmer weather and south to cooler weather.
5. Sydney is a great seaport of Australia. Here are many fine wharves and great ships.

SOME THINGS TO TALK ABOUT

1. Traveling by train.
2. Traveling by steamship.
3. The southwestern route to Australia.
4. The Hawaiian islands.
5. The Fiji islands.
6. The route to Australia by way of the strait of Gibraltar.
7. The route to Australia around Africa.
8. Other possible routes.

SOME THINGS TO FIND OUT

1. What is the cost of a railroad ticket from New York to San Francisco?
2. How much does it cost to travel by train from your home to San Francisco? Is the cost of your meals included in the amount you pay for your ticket?
3. What is the fare by boat from San Francisco to Sydney? Does this include your meals?
4. What is the cost of going from New York to England?
5. Which takes longer, to go by train across the United States or to go by boat from New York to England? How much longer?
6. How much longer does it take to travel from your home to Australia than to England? Which costs more? How much more?

EXERCISE

1. What is Australia?
2. Where is Australia located? Point in that direction.
3. In what direction is Asia from Australia?
4. What two oceans touch Australia?
5. In what two directions may we travel to reach Australia? Why?
6. Which is the quickest way to Australia?
7. How much time is saved by traveling from New York to San Francisco by train instead of by automobile?
8. Tell briefly about the trip by train across our country.
9. Describe the steamship boarded at San Francisco.
10. How far from San Francisco is the first stopping point?
11. Describe the Hawaiian islands.
12. To what nation do the Hawaiian islands belong?
13. In what direction does the steamer sail after leaving Honolulu?
14. What changes are noticed in the weather? Give the reason for these changes.
15. What is the next stopping point? How many days' journey is it from Honolulu?
16. Tell two facts about the Fiji islands.
17. Describe the remainder of the trip from Suva to Sydney.
18. What is the time required for the entire ocean trip?
19. Compare the speed of travel by boat and by train.
20. Outline the trip to Sydney by way of the Mediterranean sea.
21. Suggest one other possible route from New York to Australia.

ZONES AND SEASONS

TEMPERATURE BELTS, OR ZONES

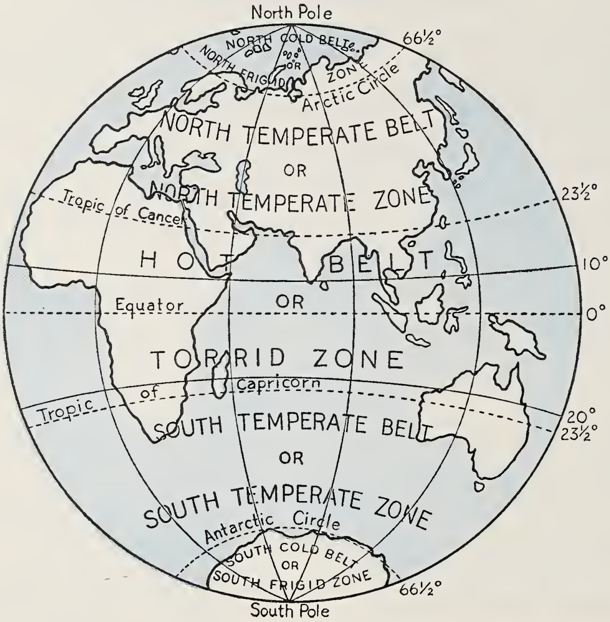
On our trip to Sydney, we went from the North Temperate belt of the world into the Hot belt. We crossed the Hot belt and entered the South Temperate belt. That makes three temperature belts. There are two others—the Cold belts—around the poles of the earth. These five temperature belts are called the zones of the earth.

Here is a map of one-half the world. Let us stop right here and learn what it has to tell us. Way north is the North Cold belt, or North Frigid zone. It is separated from the North Temperate zone by the Arctic Circle.

Way south is the South Cold belt, or South Frigid zone, with the Antarctic Circle separating it from the South Temperate zone.

Between the two Temperate zones is the Hot belt, or Torrid zone. The Tropic of Cancer separates the Torrid zone from the North Temperate zone, and the Tropic of Capricorn separates it from the South Temperate zone.

Look at the map and, beginning at the north, name the zones over and over until you can't forget them. Then name the lines which divide the zones until you know them all by heart.


North Pole
NORTH COLD BELT OR NORTH FRIGID ZONE
66½°
Arctic Circle
NORTH TEMPERATE BELT OR NORTH TEMPERATE ZONE
Tropic of Cancer
23½°
HOT BELT OR TORRID ZONE
10°
Equator
0°
Tropic of Capricorn
20°
23½°
SOUTH TEMPERATE BELT OR SOUTH TEMPERATE ZONE
Antarctic Circle
SOUTH COLD BELT OR SOUTH FRIGID ZONE
66½°
South Pole

In our stories of different regions of the earth we have learned of the five temperature belts. These temperature belts are called zones. This map shows you these zones and the imaginary lines which separate them. What are the names of these imaginary lines, and how far in degrees is each from the Equator?

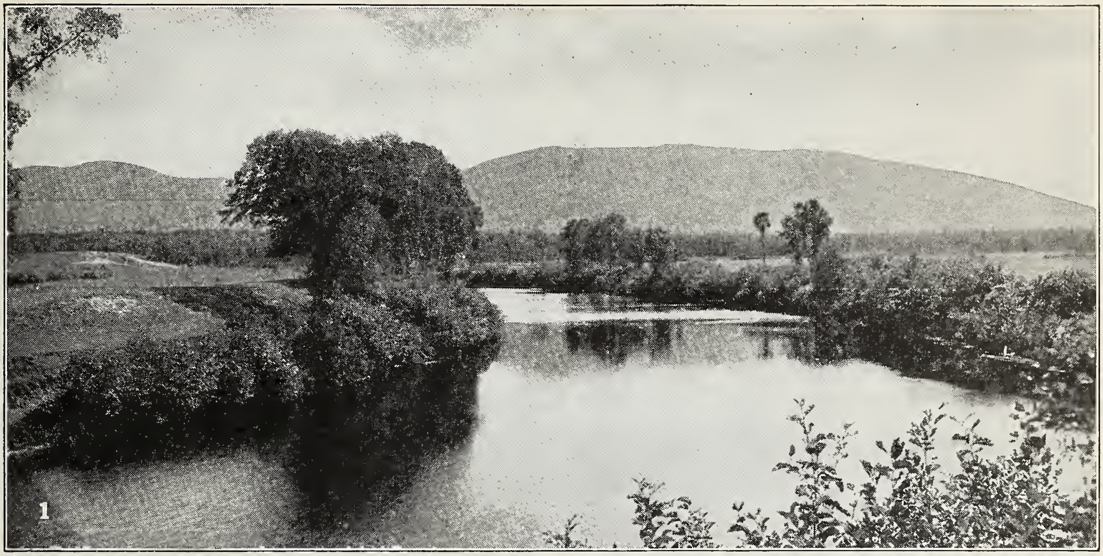
IMAGINARY LINES

Right in the middle of the Torrid zone is the Equator, which goes around the earth just halfway between the North Pole and the South Pole. We speak of the Arctic Circle, the Tropic of Cancer, the Equator, the Tropic of Capricorn, and the Antarctic Circle, as "imaginary lines." We call these lines imaginary lines because, of course, there are no real lines around the earth. We show them on maps and think of them as being on the earth's surface, because they help us to understand the differences in temperature.

DEGREES

Other imaginary lines help us in locating places on the earth's surface. Instead of saying one place is so many miles from another, we can say it is so many degrees from the Equator. A degree is just another measure of distance that we can use much as we use the mile. It is a very long measure, however, for it equals nearly 70 miles. When we say a region is one degree (1°) north of the Equator, we mean it is about seventy miles north of

SUMMER AND WINTER IN THE TEMPERATE ZONES

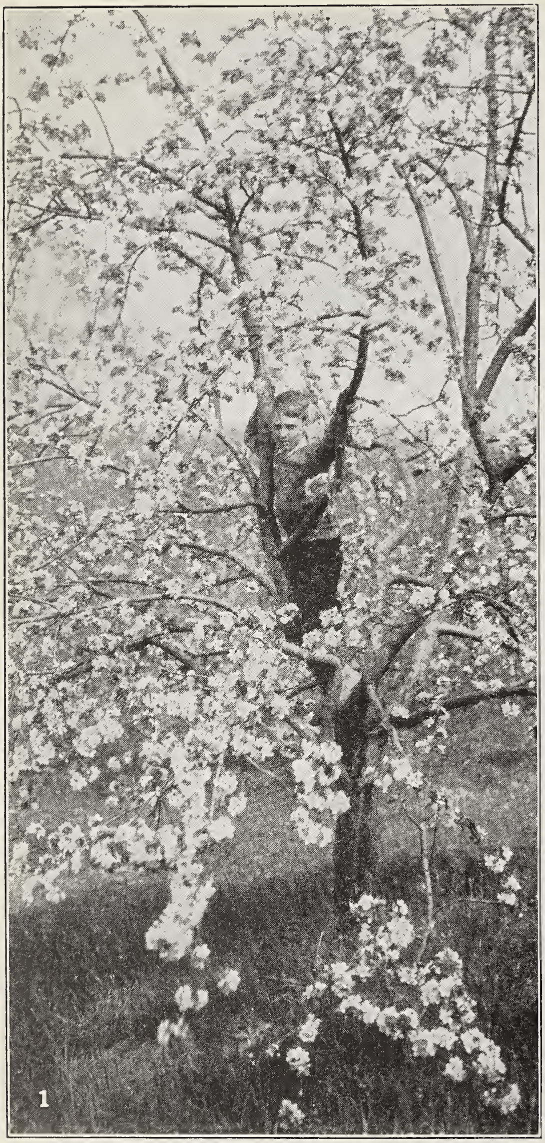


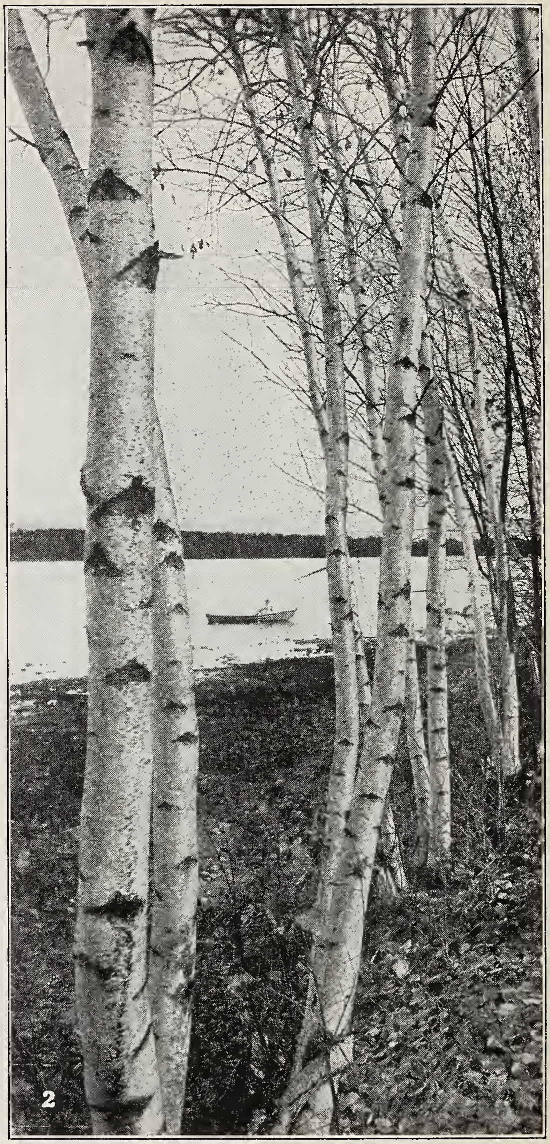
(1) Publishers' Photo Service, N. Y. (2) Seattle Chamber of Commerce.

1. On a summer day in the Temperate zone. There are four seasons in the North and South Temperate zones—spring, summer, fall, and winter. Summer is the season most of us like best. Then leaves cover the trees and bushes, and flowers blossom everywhere. The gardens and orchards give us vegetables and fruits. The pastures are covered with grass and the dairy cows graze out of doors all day long. In the fields are crops of hay. In summer time the sun is with us early and late. From time to time clouds blow across the sky, and rain falls. The rain keeps the soil moist and helps to cool the air. Summer in the Temperate zones is warm but has not the intense heat and heavy rains of the Torrid zone. Instead, it is a pleasant season, when everyone enjoys being out of doors.

2. Winter time in the Temperate zone. Fields and trees are now covered with snow. The air is cold, as the sun gives us little heat. But winter, too, has its joys. What fun it is to skate and ski. Most of the trees in the picture are evergreens, which have leaves like needles. Evergreens keep their leaves all winter in spite of intense cold. Because of their height above sea level, winter stays longer in the mountains than in the lower lands. The snow lingers on the hills and mountain tops after spring has come to the plains and valleys.

SPRING AND FALL IN THE TEMPERATE ZONES





(1) (2) Publishers' Photo Service, N. Y.

1. An apple tree in spring time. Between the snows of winter and the heat of summer spring comes to the Temperate zones. Spring is the season when the grass turns green, flowers appear, and fruit trees burst forth in blossoms. But when it is spring in the North Temperate zone it is fall in the Temperate zone south of the Equator. At the same time our blossoms appear, the leaves are falling from the trees in southern Australia, and farmers are gathering the ripe apples. When we have winter, the South Temperate zone has summer. In the South Temperate zone, the seasons are just the opposite of those in the North Temperate zone. After the long, cold winter, everyone is glad to welcome spring.

2. A fall day. Fall, like spring, is a season that comes only to the Temperate zones. It is the time between summer and winter when the sun gives us less heat. The days grow cooler. There are frosts at night. The cold drives the sap from the trunks and stems of trees and plants into the roots. Leaves change their color and fall. The beautiful silver birch trees in this picture have already shed their leaves, which cover the ground. Fall is also the harvest time for many crops. The farmer cuts his grain and hay and stores it away for use during the winter. Apples and other late fruits are gathered and the gardens are stripped of their treasures. Winter will soon be here.

the Equator. If we say a city is ten degrees (10°) south of the Equator we mean it is about 10 times 70 miles, or about 700 miles, south of the Equator.

PARALLELS

Do you see the line on the map, north of the Equator, marked 10°? This line passes through all points on the earth's surface ten degrees north of the Equator. It is called the parallel of ten degrees north latitude. Latitude means distance north or south of the Equator. Other parallels of latitude may be drawn at any distance north or south of the Equator. In each case you will see that they are marked with the number of degrees to show how far they are from the Equator. There is another parallel of latitude on the map. Is it north or south of the Equator? How many degrees?

If you look carefully, you will see that the Tropic of Cancer is 23½° north of the Equator and the Tropic of Capricorn is 23½° south of the Equator. Follow these lines around the globe, and remember that all regions lying between them are in the Torrid zone.

THE SUN AND THE SEASONS

You know that in our homeland the sun is never directly overhead. Even at noon, when the sun is highest in the sky, you see your shadow stretching toward the north. You remember that whenever the sun shone at the poles it was low in the sky and cast very long shadows. When the sun is directly overhead, the shadows are very small, and only in the Torrid zone is the sun ever directly overhead.

You remember, too, how the seasons vary in different lands. In the far north there are only two seasons—a long, long winter, and a short, cold summer. In the Torrid zone, it is very hot all the year round. In our own land, and in other temperate lands, there are four seasons—spring, summer, fall, and winter.

We usually think of the spring months as March, April, and May. We think of June, July, and August as summer; of September, October, and November as fall; and of December, January, and February as winter. As a matter of fact, this is not exactly right. Spring does not start on March 1, summer on June 1, fall on September 1, or winter on December 1. Our seasons depend on the sun.

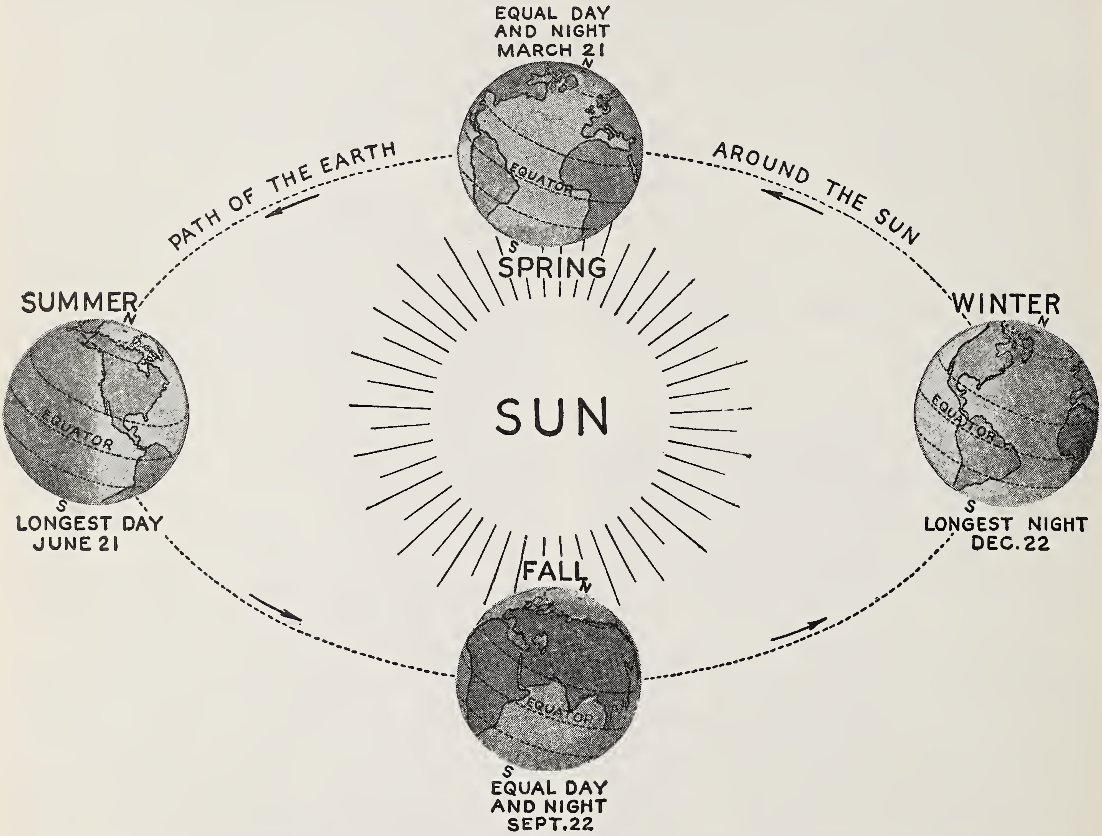
This is how it is. The earth has two motions, or two ways of moving:

(1) The earth rotates, or turns, completely around on its axis once each twenty-four hours. The axis is an imaginary line running from the North Pole to the South Pole through the center of the earth. As the earth turns, the part towards the sun is in sunlight and the part away from the sun is in shadow. This gives us our day and night.

(2) The earth moves around the sun in a great oval path once each year. Can you picture the earth always moving along its path around the sun? Because the path is oval and not an exact circle, the earth is sometimes farther away from the sun than at other times.

Look at the drawing on page 88. See the sun inside the earth's path. Notice that the axis of the earth always slants in the same direction. See where the earth is on March 21, June 21, September 22, and December 22.

On March 21, the rays of the sun fall directly on the Equator at noon. On that date spring begins in the North Temperate zone. By noon of the next day, the earth has moved a little in its path around the sun and the sun's rays do not fall directly on the Equator but just a bit north of it. Each following day the rays strike farther north, and the northern part of the world gets more and more sunlight. This means more heat, and the days grow warmer and warmer. During this time the southern part of the world gets less and less sunlight and less heat from the sun and the days grow colder and colder. This explains why the South Temperate zone has its fall season when we are having spring.



The earth travels completely around the sun once each year. On June 21, our longest day, the sun is directly over the Tropic of Cancer, and during the 24 hours of that day the sunlight reaches all parts of the earth except the part south of the Antarctic Circle. On December 22, our shortest day, the sun is directly over the Tropic of Capricorn, and during that day the sunlight reaches all parts of the earth except the part north of the Arctic Circle. On September 22 and on March 21, the sun is directly over the Equator. On those two days, days and nights are equal in length everywhere.

On June 21, the rays of the sun fall directly on the Tropic of Cancer. This is as far north as they ever strike from directly overhead. Then summer begins in the North Temperate zone and lasts for the next three months while the earth travels on to September 22, and the sun's rays gradually strike a bit farther south each day. The summer months in the North Temperate zone are the winter months in the South Temperate zone.

On September 22, the sun shines directly on the Equator once more. Then our fall begins, and in the South Temperate zone spring has started. Slowly the earth travels on, and gradually the sun's rays strike farther and farther south until December 22.

On December 22, the rays fall directly on the Tropic of Capricorn. This is as far south as they ever strike from directly overhead. From then until March 21 the South Temperate zone has its summer while in the north winter has come.

Doesn't it seem odd to think that when we are celebrating Christmas and New Year with snow on the ground, people in the South Temperate zone are celebrating these holidays in hot summer weather, with flowers all in bloom?

The direct rays of the sun never fall near enough to the poles for them to be really warm. So they have mostly winter and only a short summer. The sun always shines directly down on some part of the Torrid zone, so there it is always hot. It is only the Temperate zones that have four seasons.

AUSTRALIA IN TWO ZONES

Of course you are wondering what all this has to do with Australia. Let us see. If you look at your map again you will find that the Tropic of Capricorn crosses Australia a little above its center. This tells us that the upper part of the continent, a little less than half, lies in the Torrid zone. The lower part lies in the South Temperate zone.

Sydney is far south in this Temperate belt. So, if we leave New York in late spring, wearing light clothing, we know that in Sydney, when we arrive, it will be late fall or early winter. That should remind us to take heavy clothing along.

If you wish to see certain crops growing, knowledge of the zones will tell you where to look for them. You know, for example, that sugar cane grows in warm countries. To see it growing in our own land, we have to go south towards the Hot belt. If we wish to find it in Australia, we will have to go north from Sydney, because the Hot belt lies in that direction.

Knowing about the zones and parallels helps you to find out many things about the climate of Australia. Locate on the globe the other countries you have studied. You can easily see in what zones they lie. Then you can tell the kinds of climate they have, and when they have their different seasons.

I SHOULD REMEMBER

1. There are five temperature belts, or zones, around the earth—the North Frigid zone, the North Temperate zone, the Torrid zone, the South Temperate zone, and the South Frigid zone.
2. The Arctic Circle separates the North Frigid zone from the North Temperate zone.
3. The Antarctic Circle separates the South Frigid zone from the South Temperate zone.
4. The Torrid zone lies between the Tropic of Cancer and the Tropic of Capricorn. The Equator is in the center of the Torrid zone and is just halfway between the poles.
5. Latitude means distance north or south of the Equator.
6. Distances north or south of the Equator are measured in degrees of latitude. A degree of latitude is about 70 miles.
7. Parallels of latitude are lines which pass through all points on the earth's surface at any given number of degrees north or south of the Equator.
8. The Tropic of Cancer is 23½° north of the Equator. The Tropic of Capricorn is 23½° south of the Equator.
9. Only in the Torrid zone is the sun ever directly overhead.
10. The seasons vary in the different zones.

11. The earth rotates on its axis once each day. This causes our day and night.
12. The earth moves around the sun once each year. This causes the change of seasons.
13. The Temperate zones have four seasons. The Frigid zones have two seasons, and the Torrid zone is hot all the year round.
14. The Tropic of Capricorn crosses Australia north of its center. Nearly half of Australia is in the Torrid zone. The southern part is in the South Temperate zone.

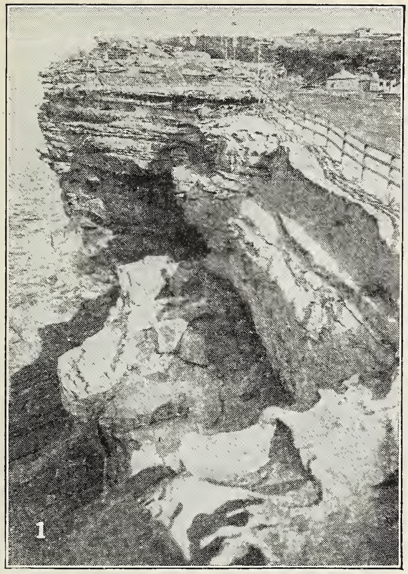
SOME THINGS TO TALK ABOUT

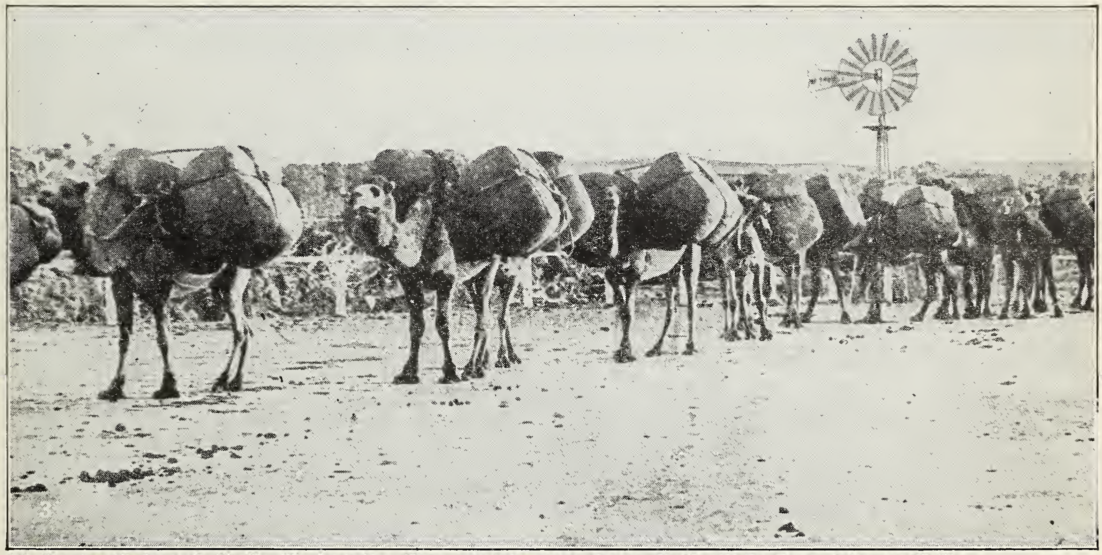
1. The zones of the earth.
2. Measuring by degrees of latitude.
3. The sun and the seasons.
4. The zones in which Australia lies.
5. Our seasons and those of Australia.

EXERCISE

1. In what temperature belts did we travel on our trip to Australia?
2. Name the five zones of the earth.
3. Between what lines is the Torrid zone? The North Temperate zone?
4. Where is the Equator?
5. What is meant by latitude? How long is a degree of latitude?
6. About how many miles are there in 5° of latitude?
7. What is a parallel of latitude?
8. Give the latitude of the Tropic of Cancer and of the Tropic of Capricorn.
9. In what zones is the sun never directly overhead at noon?
10. Tell about the seasons in the different zones.
11. What gives us our day and night?
12. What causes our seasons?
13. Where do the sun's rays strike directly on March 21? What are the seasons in the different zones at this time?
14. Where do the rays of the sun strike directly on June 21? Tell about the seasons at this time.
15. Where do the sun's rays strike directly on September 22? What season is beginning in the North Temperate zone? In the South Temperate zone?
16. Where do the direct rays of the sun fall on December 22? Tell about the seasons at this time.
17. Why are there two seasons at the poles and four in the Temperate belts?
18. What tropic crosses Australia? What does it tell us about the climate?
19. When it is winter in our homeland, what is the season in Sydney?
20. How do the zones of the earth help us to know the climates of different countries of the world?

SEACOAST, MOUNTAINS, AND DESERT IN AUSTRALIA





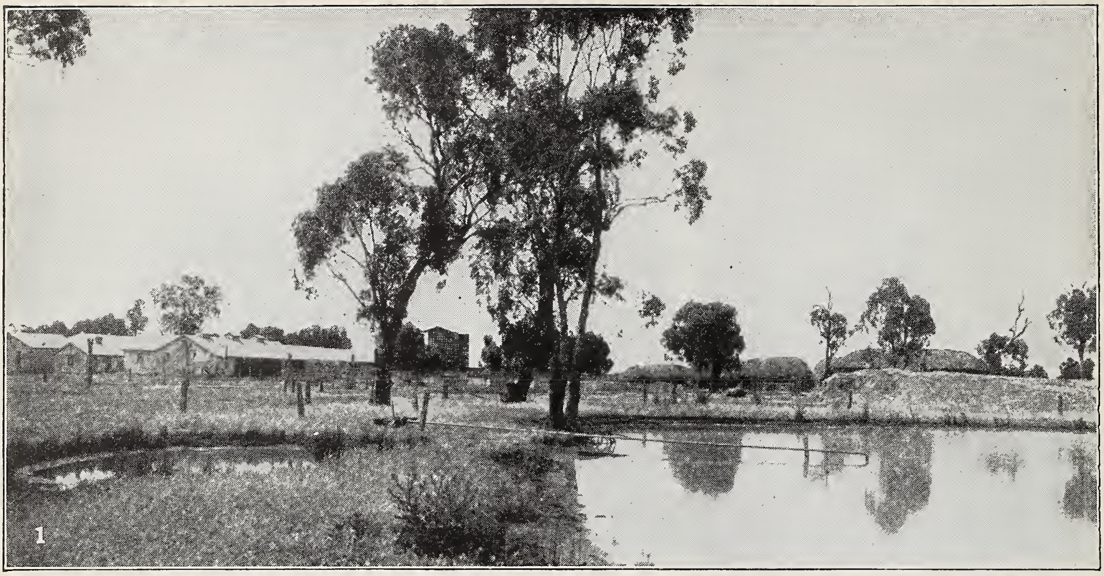
(1) Keystone-Underwood, N. Y. (2) Australian News and Information Bureau, N. Y. (3) By Ewing Galloway, N. Y.

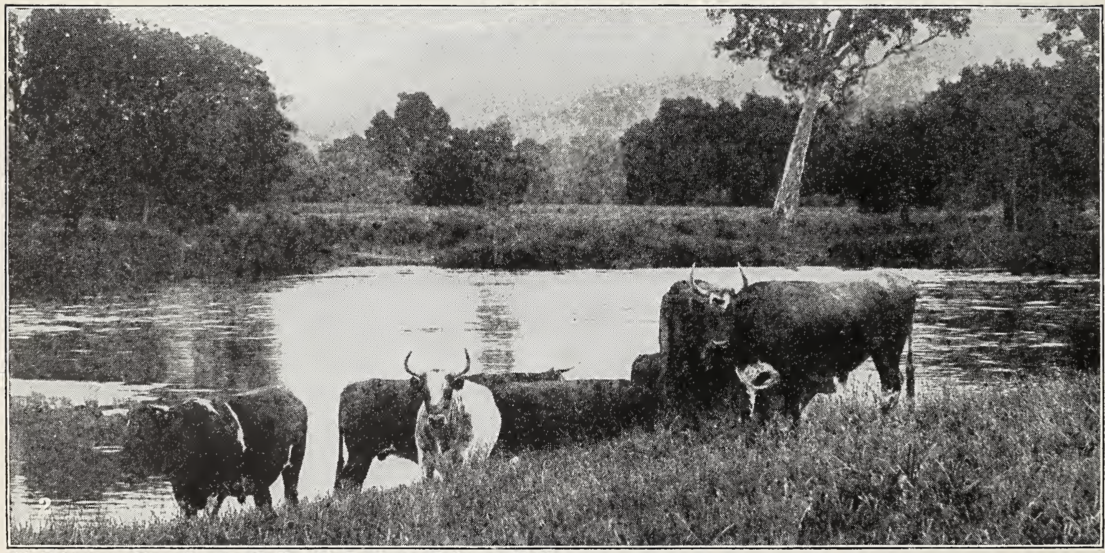
1. High cliffs on the eastern shore of Australia, near the entrance to the harbor of Sydney. See how these cliffs have been cut and worn by the ocean waves. Australia is surrounded on every side by water, and no other great body of land is near it. To reach Australia from any other part of the world one must take a long sea voyage. It is many thousands of miles from our country and from Europe.

2. A winter scene in the mountains near the southern end of the Great Dividing range, not far from the city of Melbourne. This looks much like the winter scenery in the northern part of our own Appalachian highlands. In what ways are the Great Dividing range and the Appalachian highlands alike? In Australia, winter comes during the months when we are having our summer weather. The farther south one goes in Australia, the cooler climate one finds. What is the reason for this?

3. Camels in western Australia. There were no camels in Australia when the continent was discovered. Why do you suppose they were taken there? We know that camels can live more easily than other animals in hot, dry countries. Most of the rainfall in Australia is in the eastern, northern and extreme southern parts of the continent. Much of the western half has very little water and is largely desert. The camels are very useful in carrying wool from the grasslands across the desert to the seaports.

WATER IN A DRY CONTINENT





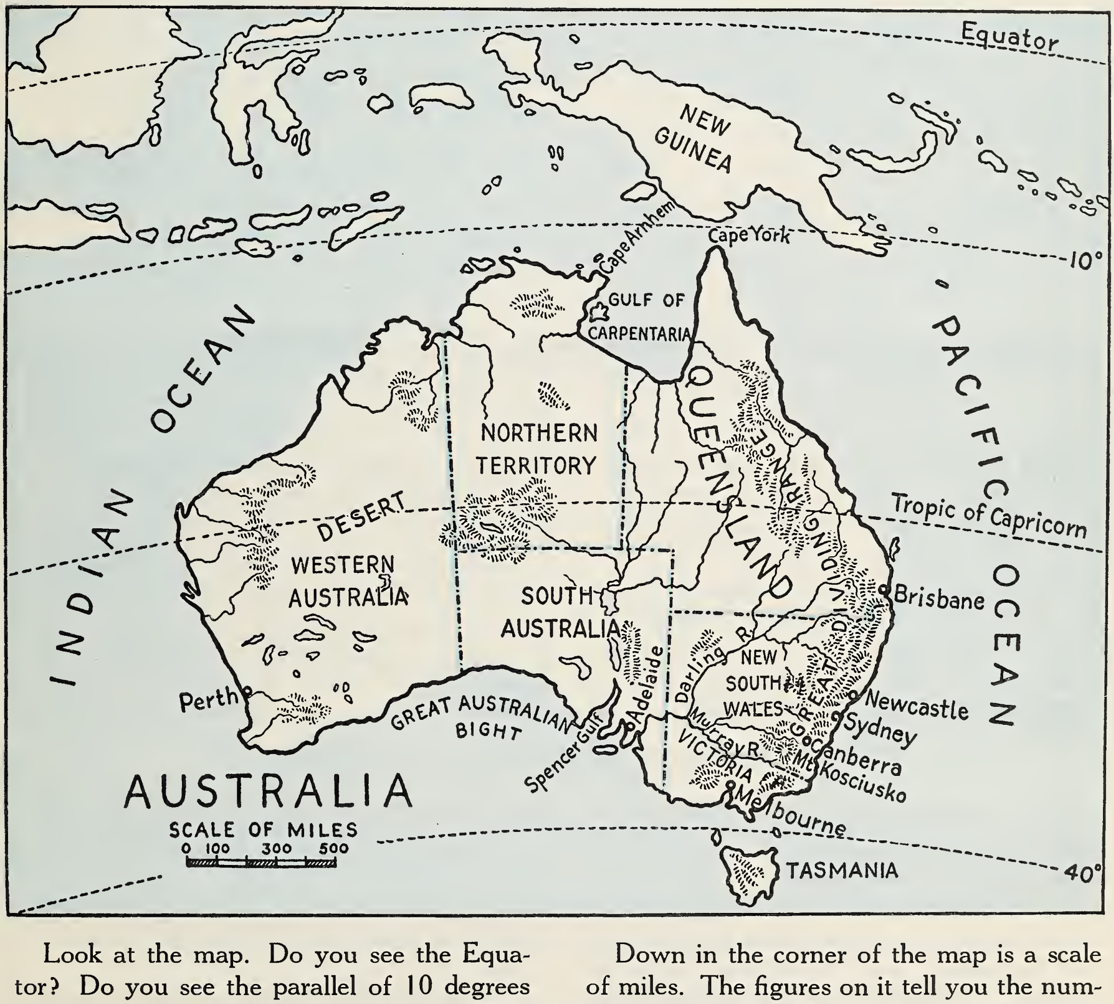
(1) Publishers' Photo Service, N. Y. (2) By Ewing Galloway, N. Y.

1. A pond in Australia fed by an artesian well. North of the Murray-Darling basin is a region with good soil but slight rainfall. Water is needed to moisten the soil and for the sheep and cattle which are raised there. The chief means of getting the needed water is by drilling artesian wells. In the mountains of the Great Dividing Range, which lies to the east of this dry region, there is rain all the year. The rain soaks into the ground and flows between rock layers to the lower land. Here men drill for the water. The ranch you see in the picture would not be here if it were not for the well the rancher has drilled. The pond is filled with water and will never go dry. All along the western slopes of the Great Dividing Range are ranches which depend on these wells.

2. The upper Murray river. Here the Murray is a small stream flowing through the southeastern part of Australia. The country along the upper Murray is fertile and there is enough rainfall for farming. Rich grass grows in the river valley, and forests cover the hillsides. See how healthy and well-fed these cattle look. They are being fattened for beef. The Murray at this point is too narrow and shallow for ships. But before it joins the Darling river it grows large enough to float river steamers. Small steamboats carry wool, wheat, and other products from the ranches along the Murray river down the Murray-Darling river to Adelaide on the sea. They bring back manufactured goods and other things which the ranchers need.

SIZE, SHAPE, AND SURFACE OF AUSTRALIA

Australia is often called the smallest continent and the largest island of the world. But how large is it? There are three ways of finding its greatest distance from north to south.

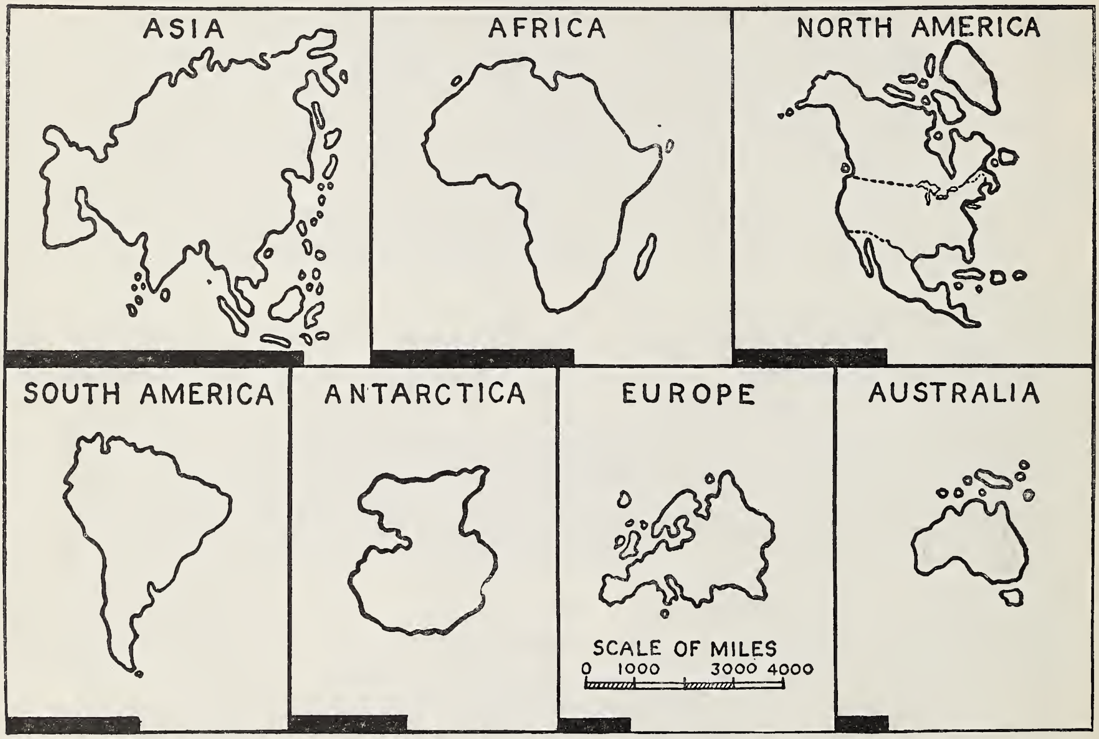


MEASURING AUSTRALIA FROM NORTH TO SOUTH

Look at the map. Do you see the Equator? Do you see the parallel of 10 degrees (10°) south latitude? That parallel is just a little north of Australia's northern edge. What parallel is just a little south of Australia's southern edge? Australia, then, is about 27 degrees from north to south. As a degree is nearly 70 miles, you can find this distance from north to south by multiplying 70 miles by 27. How many miles is this?

Down in the corner of the map is a scale of miles. The figures on it tell you the number of miles the scale stands for. It says that the entire line stands for 500 miles. With this scale measure the longest distance in Australia from north to south. The longest distance from east to west.

Another way of knowing whether Australia is really large or small is to find out what crops grow in its most northern and southern sections. Grapes, peaches, and pears grow in the southern part of Australia. These same fruits are raised in New York and other northern states of our land. Oranges, bananas, and even that hot climate plant, sugar cane, grow in the northern part of Queensland, one of Australia's largest divisions. These are our southern products. All this means that Australia is about as long from north to south as is the United States. Australia is not a very small continent after all.



THE SEVEN GREAT BODIES OF LAND

Here are separate little maps of the seven continents. See how they differ in size and shape. Under each continent is a black bar. The bars show us how the continents differ in size. The longer the bar, the larger the continent. Using your ruler, measure the length of the bar under Australia; then measure the length of the bar under Asia. How many times larger is Asia than Australia?

THE PACIFIC SLOPE

If you will look at the map again, you will see that the east coast, or Pacific slope, of Australia curves so far out that it is much longer than the straight distance from north to south. The coast line is more than one-fourth longer. The slope from the mountains to the sea on this eastern side looks very narrow, yet if you measure it you will find it is two hundred miles wide at its widest point.

MEASURING AUSTRALIA FROM EAST TO WEST

The best way to measure distance east and west is with the scale of miles. Compare Australia with the United States, from east to west. There is not much difference, is there? Is it longer from New York to

San Francisco than it is across the widest part of Australia?

How long did it take to travel by automobile from New York to San Francisco? It might take as long to travel from Sydney on the east coast of Australia to Perth on the west coast, since the distance is about the same.

There is a great railroad in Australia called the Trans-Australian railroad. Its main line from Sydney to Perth is about 3,000 miles long. How does that distance compare with the railroad trip we took from New York to San Francisco?

AUSTRALIA AND ENGLAND

Australia is a part of the British Empire, a group of countries headed by the King of England. England no longer owns or rules Australia, which has a government of its own and runs its own affairs. The Australians still love their "mother country," England, and the two countries work well together and help each other in peace and in war.

AUSTRALIA LIKE A CLAMSHELL

Nearly all of you have seen clamshells. If you should take one of the half-shells of a clam, break off pieces on the edge so that it will look like the northern coast of Australia, and lay it, hollow side up, on your desk you would have a fairly good model of Australia. Like the clamshell, Australia is low in the center.

Look at the map of Australia. Notice the great bay at the south which curves up into the land. This is known as the Great Australian bight. East of the bight you will see a narrow bay cutting far into the land. This is Spencer gulf.

Like the edges of the clamshell, the eastern and western coasts of Australia are fairly regular. On the northern coast, however, you will see two great capes extending far into the sea. The one to the west is Cape Arnhem. The one to the east is Cape York. Between them is the Gulf of Carpentaria.

MOUNTAINS AND RIVERS

The highest mountains in Australia are near the eastern coast. They form a long ridge, known as the Great Dividing Range, and run from north to south almost across the entire continent. Much of this great ridge is over 2,000 feet high, with mountain peaks more than twice that height. The highest of all is Mount Kosciusko, about 200 miles southwest of Sydney. It towers more than 7,300 feet above the level of the sea. That is higher than any mountain in our country east of the Mississippi. Is it more than a mile high?

Rain falling on the eastern slopes of the Great Dividing Range is carried to the Pacific ocean by streams which are short and rapid. Rain falling on the western slopes of this range forms the rivers which flow southwest or northwest. Here the slopes are more gradual and the rivers longer.

The largest river in Australia is over 1,000 miles long. This is the Darling river. The stream which forms this river rises far back in the mountains. The Darling flows southwest. Before it empties into the ocean south of Spencer gulf, it is joined by another river, the Murray.

There are some low mountains in the central part of Australia, and also near the western coast. Most of western Australia, however, is made up of low desert plains, where there are few streams.

I SHOULD REMEMBER

1. We can learn the distance across any land from north to south by noting through how many degrees of latitude it extends. Or we can judge the north and south extent of a country by finding out what crops are raised in its most

northern and southern parts. The scale of miles on a map will help us in finding distances.

2. The distance across Australia from north to south is about 27°, or 1890 miles.

3. In southern Australia, grapes, peaches, and pears are grown. These are our northern products. Oranges, bananas, and even sugar cane come from the northern part of the country. These are grown in our most southern states. Therefore Australia must be about as long from north to south as is the United States.

4. The distance across Australia from east to west is about the same distance as from New York to San Francisco by rail.

5. Australia is nearly as large as the United States, about three-fourths as large as Europe, and almost sixty times the size of England, her "mother country."

6. Australia is shaped somewhat like a clamshell.

7. On the south of Australia is a large bay, called the Great Australian bight. East of it is Spencer gulf.

8. On the north coast are the capes of Arnhem and York. Between them is the Gulf of Carpentaria.

9. A high ridge in the eastern part of Australia, called the Great Dividing Range, runs north and south almost entirely across the continent. The highest mountain is Mount Kosciusko.

10. The eastern slopes of the Great Dividing Range are steep. The rivers are short and flow direct to the sea. To the west, the land slopes gradually and the streams are long. The Murray-Darling is the largest and longest river system of Australia.

11. There are low mountains in the central part of Australia and also near the western coast. Most of the western part, however, is made up of desert plains, where there are few rivers.

SOME THINGS TO TALK ABOUT

1. Three ways to find north and south distances.
2. The clamshell continent.
3. The coastline of Australia.
4. Australian mountains.
5. Australian rivers.

EXERCISE

1. If you were in the far southern part of the world, in what direction would you travel to reach a hot climate?

2. What changes in temperature occur in Australia in traveling from south to north? What changes in crops?

3. What is the greatest distance across Australia, measuring from north to south?

4. What is the distance from south to north, measured in degrees?

5. Give the distance across Australia from east to west. How does this distance compare with the distance across the United States?

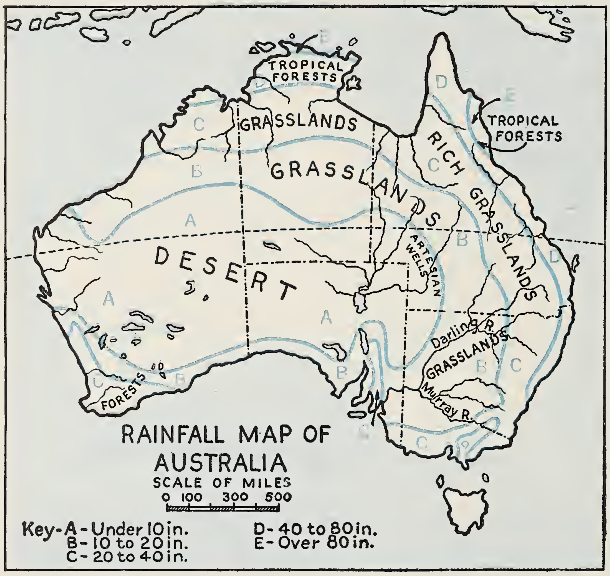
6. Name a great railroad of Australia. What is the length of its main line?
7. Compare the size of Australia with that of the United States; with that of Europe.
8. How does Australia compare in size with its "mother country"?
9. In what ways is Australia like the hollow side of a clamshell?
10. Name and tell the locations of three bodies of water which indent the coast of Australia.
11. What two capes are on the northern coast of Australia?
12. What is the Great Dividing Range?
13. What is the highest mountain of Australia? About what is its height? Where is it located?
14. Tell about the slopes and rivers on the eastern side of the Great Dividing Range.
15. Tell about the slopes and rivers on the western side of the Great Dividing Range.
16. Name the largest river of Australia. In what direction does it flow? Where does it empty into the ocean?
17. Describe the land in the western part of Australia.

AUSTRALIA

RAINFALL, DRAINAGE, RIVERS, LAKES, IRRIGATION

RAINFALL AND PLANT GROWTH

You remember how much rainfall and moisture have to do with plant growth. In your own neighborhood you have seen how much better crops grow in the moist valleys than on the dry hillsides. You have seen plants wilt and die from lack of rain. But how fresh and green they are when there is plenty of moisture! You remember the hot, moist Amazon basin with its dense forests, and the hot, dry Sahara desert where few plants grow. Let us see how rainfall and moisture affect Australia.



Notice the differences in rainfall in Australia. See how the rainfall increases from the desert outward. With increasing rain, there is more vegetation. First come the dry grasslands; then richer grasslands. Where there is still more rain there are forests and fine crop lands, while tropical forests grow in the regions of greatest rainfall.

If you study the rainfall map of Australia you see that on the east coast and on both Cape Arnhem and Cape York the rainfall is over 40 inches a year. The rainfall of New York state is about 40 inches a year. That amount, at least, is needed to grow good forests such as those found in New York state, or more tropical ones like those you will find on Australia's eastern coast. In certain parts of Australia the rainfall reaches 100 inches. Here are tropical jungles like those of the Amazon basin.

Inland from the areas of heavy rainfall, and on the southeastern and southwestern coasts you will note areas of moderate or fair rainfall—20 to 40 inches. In such areas grasses and grains grow well. Here you will find natural grasslands, like those of the upper Nile, and cultivated crops of wheat and corn.

Still farther inland, beyond the real grasslands, and on parts of the west coast, are great areas having a rainfall of only 10 to 20 inches. Some poor grass, enough to feed sheep, grows in parts of this area. In the rest of Australia, the rainfall is below 10 inches a year, and the land is a real desert.

You will see, then, that only a small portion of Australia has heavy rainfall. But nearly two-thirds of the continent has very little rain.

FLOODS AND DROUGHTS

Unfortunately, too, the rainfall in Australia cannot be depended upon. Sometimes, even in sections which are usually dry, rains are so heavy that the land is flooded, and people have actually been drowned in the desert.

More common and more terrible than the floods, however, are the droughts, or times of no rain, in those sections where rain is counted on. Great areas of Australia sometimes have no rain at all for a whole year. Not so very long ago most of Australia went without rain for nearly two years.

During the great droughts the land gets very dry. Often rivers cease to flow. Grass and farm crops wither away. Then the sheep and cattle die by the thousand for lack of food and water. There is terrible suffering.

THE MURRAY-DARLING SYSTEM

The largest river system in Australia is the Murray-Darling. It is really two rivers, the Murray and the Darling, which join and flow to the sea as one. The Darling, the northern stream, rises in about the center of the Great Dividing Range and flows southwest. The Murray rises in southeastern Australia and flows northwest, joining the Darling about 250 miles from the sea. Together, these rivers drain a great basin in the southeastern part of Australia, nearly a fifth of the entire continent.

Except in times of drought, steamboats can sail up the Darling river for more than five hundred miles from the sea. They can sail up the Murray nearly as far. Wheat, fruit, wool, and other products of southeastern Australia are sent by boat to the seaport of Adelaide near the river's mouth. At Adelaide the goods are loaded on ocean steamships to be carried to other countries.

The Murray-Darling is the only great river system of Australia. All around the edge of the continent, except along the Great Australian bight, there are short rivers running down to the sea. Though most of these streams are too shallow for boats, it is possible to sail up a few of them for about 100 miles.

AUSTRALIA'S STRANGE LAKES AND RIVERS

There are but few lakes of any size in Australia. Some of these are north of Spencer gulf. Others are in the southwest desert area. The Australian lakes are broad, but shallow. In dry weather they, and the rivers flowing into them, get very low or even dry up. In times of heavy rains they overflow and flood the surrounding country. They are very different from the mountain lakes in our own country and in Switzerland, where the water is deep and clear, and where there is little change in water level, due to regular rainfall.

Some of the lakes, especially in the desert, contain salt water. A few are below sea level. Streams flow into these very low lakes, but no water flows out of them. From time to time they dry up in the hot air of the desert.

We are used to rivers that grow larger because of other streams flowing into them. In Australia, however, some of the streams grow smaller towards their mouths. They start in regions having a fair rainfall, but flow through such hot, dry areas that the water is gradually taken up by the land and the dry air.

ARTESIAN WELLS

The people of Australia have found two ways to supply at least some water in times of drought and in sections of light rainfall. On the broad western slopes of the Great Dividing Range many wells have been dug. These wells are called Artesian wells. The water reaches them in a curious way. In the rainy district on the eastern slope of the Great Dividing Range much water soaks into the ground. Some of this water flows westward, underground, between layers of rock. Always it flows downhill to a lower level. When men on the western slopes dig down through the ground and bore holes through the rock to this water, the water flows out and forms great pools where the cattle and sheep can drink. The farmers, in some places, dig ditches from these pools to carry a part of the water to their crops.

Then, too, the Murray, the Darling, and other streams are used to keep farmlands

IRRIGATION moist by irrigation. The river water is drawn off in ditches which lead through the fields where crops are growing. In this way the plants gain the moisture they need.

To make sure of having water at any time, engineers have recently built a great irrigation dam on the Murray river. It is the largest dam in the entire Southern hemisphere. The dam holds back much of the river water and forms a great lake. In times of drought, the water from this lake is allowed to flow through irrigation ditches to keep the land moist for raising crops.

I SHOULD REMEMBER

1. Climate and rainfall vary greatly in different parts of Australia.
2. In the northern area of heaviest rainfall, and down the east coast are tropical jungles.
3. Inland from the areas of heavy rainfall, and on the southeast and southwest coasts, are regions of moderate or fair rainfall. Here are rich grasslands and grain-growing areas.
4. Inland, beyond the grasslands, and on parts of the west coast, are areas having light rainfall. Here only enough grass grows to feed sheep.
5. Nearly two-thirds of Australia has very little rain.
6. Australia's rainfall is uncertain. Heavy rains sometimes flood desert areas, and streams overflow their banks.
7. Australian droughts are far worse than the floods. Droughts sometimes last a year or more. Rivers cease to flow. Grass, farm crops, sheep, and cattle die.
8. The largest river of Australia is the Murray-Darling. It is formed by two rivers—the Murray and the Darling. The Murray-Darling basin covers nearly one-fifth of Australia.
9. There are few lakes in Australia. Australian lakes are broad and shallow. In dry weather they get very low or dry up. In rainy weather they flood the country about them.
10. Some lakes in the desert contain salt water. Some are below sea level and have no outlet.
11. Because of the hot dry land and air, some streams in Australia grow smaller towards their mouths.
12. Much of Australia's land is irrigated to provide moisture for crops.

SOME THINGS TO TALK ABOUT

1. Rainfall and plant growth.
2. Floods and droughts.
3. Australian streams.
4. Lakes of Australia.
5. Artesian wells.
6. Irrigation.

EXERCISE

1. What parts of Australia have the heaviest rainfall? About how many inches of rain do they have?
2. What kind of forests grow in the region of heaviest rainfall?
3. In what parts of Australia is the rainfall from 20 to 40 inches?
4. Describe the plant growth in these areas.
5. Give the amount of rainfall in the areas of poor grass.
6. How much of Australia has very little rainfall?
7. What happens in Australia in times of drought?
8. Name the largest river in Australia. Tell several facts about this river.
9. How much of Australia does the Murray-Darling river drain?
10. How far up the Darling river can boats travel? For what are these boats used?
11. Tell about the other rivers of Australia.
12. Describe briefly the lakes of Australia.
13. Where are the salt lakes of Australia located?
14. Why do some rivers of Australia grow smaller near their mouths?
15. In what part of Australia are Artesian wells used?
16. Tell how water reaches the Artesian wells.
17. What use is made of the water from the Artesian wells?
18. How are the rivers used to help crops?
19. What has been done to store up the water of the Murray river?

SHEEP AND CATTLE RAISING IN AUSTRALIA

Of course most of you have seen a few sheep grazing in a pasture. A few of you may have seen large flocks on our western lands. But Australia is the place to see sheep in really great numbers. There are more than 100,000,000 of them in this far-off land. Australia leads all the world in the value of her sheep products.

GRAZING LANDS

The best sheep lands in Australia are in the southeastern part of the Murray-Darling basin. Here there is usually enough moisture to make the grass thick and rich. North of this area, along the drier grassy western slopes of the Great Dividing Range, is an immense sheep-raising region. Beyond the desert, along the western edge of Australia, are other grasslands, where some sheep are raised.

Few people live in these sheep-raising regions. Sheep need so much land for pasture that they can not be raised in large numbers where many people dwell.

If it were not for sheep and beef cattle raising, the dry grasslands would be of little use to the Australians. These grasslands have too little water or rich pasture for dairy cattle. Besides, they are too far from the cities. Because there is so little rainfall, crops can not be grown. There are no forests, because trees, like farm crops, need much water. Sheep, however, can get along with little water, and they like to feed on the grasses and low bushes found in the grasslands. As the climate is mild the sheep need no shelters, but can live out-of-doors all the year round.

SHEEP RANCHES

In times past the sheep grazed in great flocks over wide areas of open land. Now there are very many ranches or "stations," shut in by miles and miles of wire fencing. Each flock of two or three thousand sheep is tended by one or two herdsmen. With the help of their sheep dogs, these men drive their flocks to and fro across the fenced-in plains, moving on when the grass in one section is used up, or water is too scarce. For months at a time, the herdsmen live with their flocks, seldom seeing other people. What a lonely life it must be!

Only a small part of the sheep lands is reached by railways. Usually, when sheep are to be sent to market, they must be driven long distances to a railway. These trips may take many days. Regular paths, or trails, are followed. Along these trails water and pasture land have been provided. So the sheep have food and drink during their long journey.

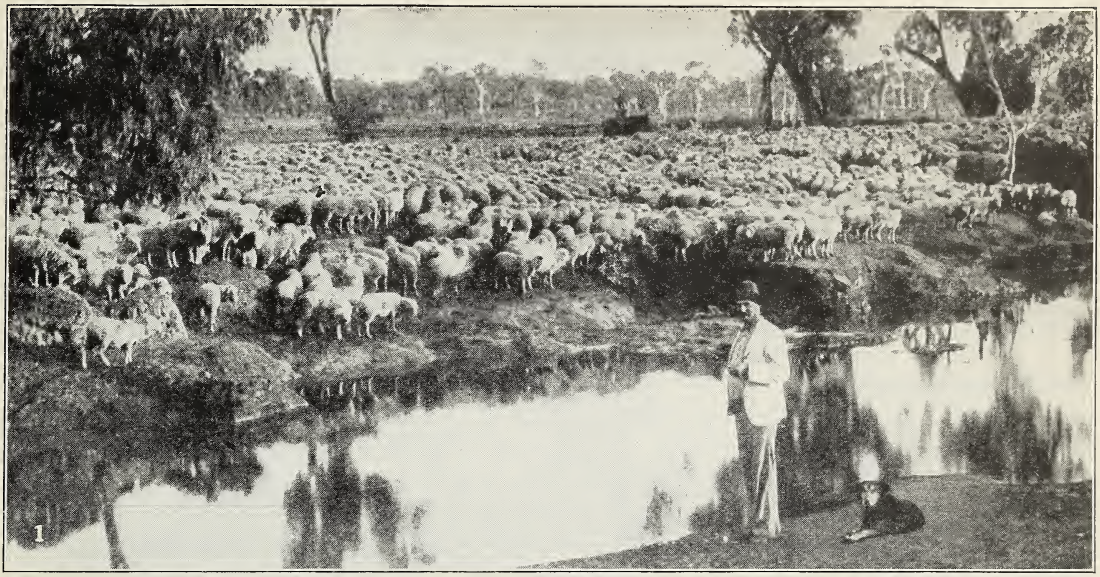
SHEEP PRODUCTS

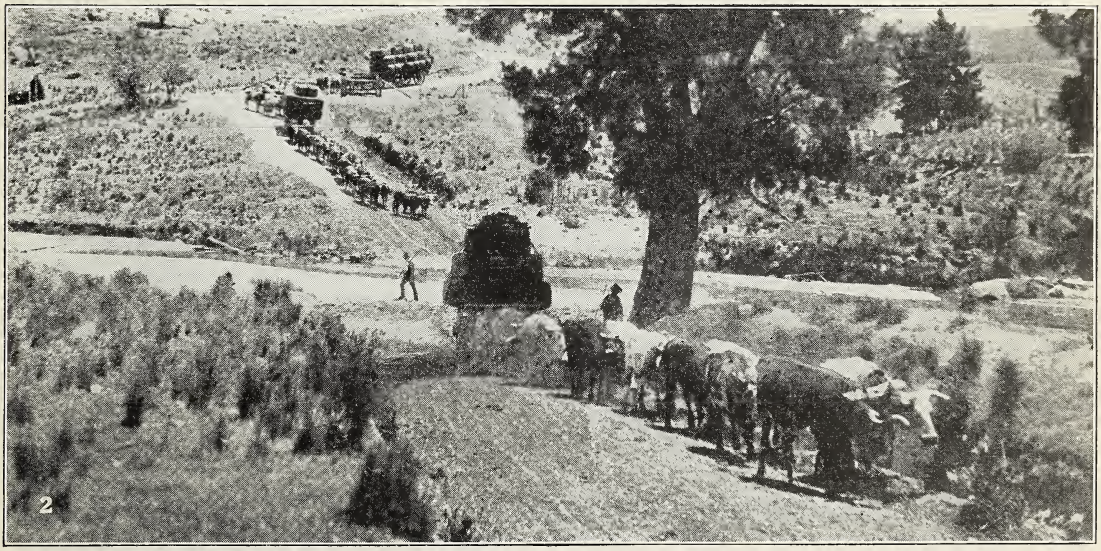
When the sheep reach the railway they are loaded on cars and carried to the cities. Here they are killed and their meat is prepared for shipment to other countries.

Sheep are raised for their wool as well as for their meat. Australian sheep produce the finest wool in the world. Merino sheep grow much of this wool. Merinos are small animals but their skin hangs down in great folds. They look as if they were wearing wool coats several sizes too large. These little sheep do not eat as much food as large sheep, but they produce just as much wool. They live well on the poor pasture of the dry grasslands.

When the wool is well grown, it is sheared, or cut off. What a busy time the shearing season is! The sheep are driven into fenced yards. From these they are driven into small pens beside the shearing sheds. One by one, the men seize them, hold them down, and clip off the wool evenly without hurting the animal. Often they use

SCENES IN A SHEEP COUNTRY



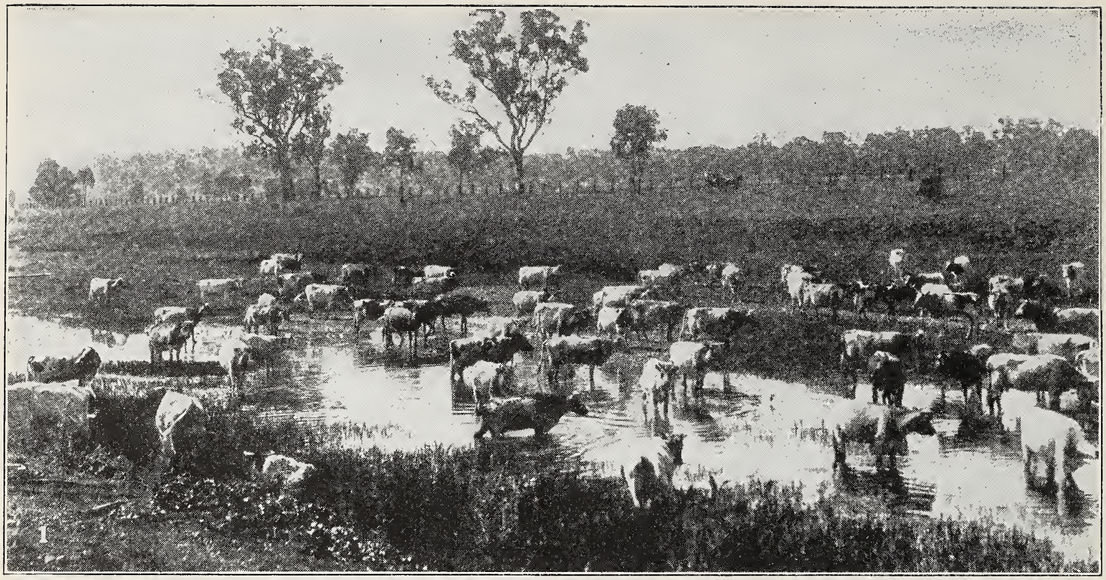


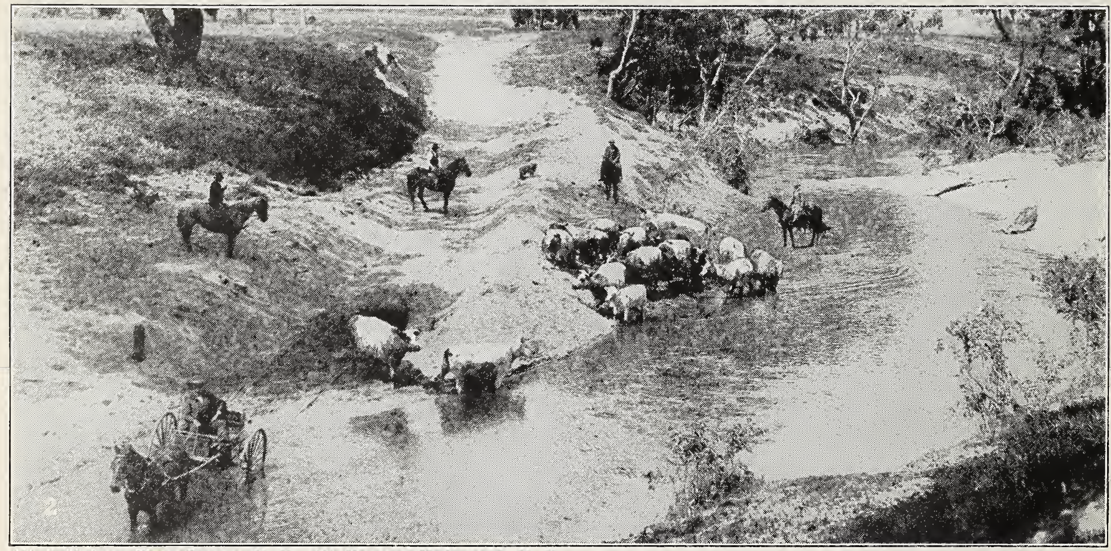
(1) (2) By Ewing Galloway, N. Y.

1. A flock of sheep and their shepherd beside a stream in Australia. Caring for all these sheep is not an easy task. From time to time they must be moved to new pasture, for such a large number of sheep soon eat all the grass in one place. Good, clear water must be provided for them near at hand. Sick sheep must be cared for. Nothing must be allowed to frighten the sheep, for if they should start to run many would be trampled and killed before they could be stopped. The shepherd you see must take care of all these things. His trained sheep dog is a very skilful helper. For a year these sheep graze on the great fenced-in ranges. Their wool coats grow during the winter and early spring until they are thick and heavy. When late spring comes, they no longer need their wool to protect them from the cold. Then men cut off the wool with clippers and it is packed in bales to be sold and shipped away.

2. Hauling wool to a railway station in Australia. A team of sixteen oxen is pulling each heavily-loaded wagon. Think how many sheep must have been sheared to pile these three large wagons with the many tightly-packed bales of wool! The oxen with the wagon in the foreground have just forded a stream. Many of the streams in the grasslands are so shallow that no bridges are needed.

PASTURES AND RANCHES IN AUSTRALIA





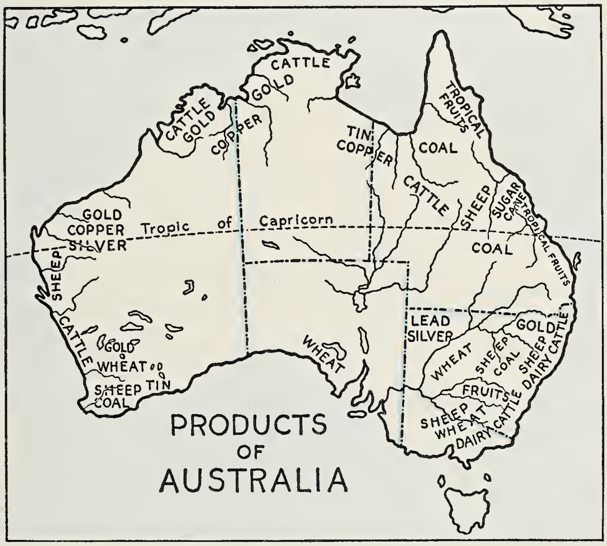
(1) Publishers' Photo Service, N. Y. (2) Keystone-Underwood, N. Y.

1. Dairy cattle in southeastern Australia. This picture might have been taken in a dairy region of the United States, for many pastures in our country look like this one. Although most of Australia is too dry for dairy cattle, southeastern Australia is a fine dairy country. Here there is plenty of rainfall. Grass grows abundantly and the cows produce rich milk. A great deal of the milk is sold in the cities, but much more is made into butter and cheese. Large amounts of these dairy products are shipped away to other countries, chiefly to England.

2. Watering a small herd of beef cattle in the grasslands of Australia. The animals have been driven down to the stream to drink. Like many of the rivers in Australia, this stream is dry most of the year. But recent rains have filled the river bed so that water covers the sandy road that crosses the channel at this point. The picture was taken in the grasslands west of the Great Dividing Range. Beef cattle are raised here on great ranches which cover many square miles. Beef cattle are also raised on the grasslands along the northern and western coasts of the continent. Notice how heavy and chunky these cattle are. They are much stronger and sturdier than dairy cattle, and they produce more tender beef. Beef from such cattle and mutton from Australia's sheep are shipped in large amounts to England.

electric clippers. With these clippers a man can shear a sheep in five minutes. That is a shorter time than it takes a boy to have his hair cut.

The wool is separated, or graded, according to quality. Then it is pressed into great bundles, or bales. These bales are hauled to the railway. Trains carry the bales to the seaports, to be loaded on steamers and shipped to other countries, where the wool is spun into yarn and woven into cloth. Until recent years most of Australia's wool was sent to England, but our country is now taking very large quantities of it. Sydney is one of the chief shipping ports. As Sydney is about 33° south of the Equator and England is about 56° north, and also nearly halfway round the world, you will see that the wool has to travel a long way. The steamers go by way of the Pacific and Indian oceans, the Arabian sea, the Gulf of Aden, northwest through the Red sea and the Suez canal, west through the Mediterranean sea and the Strait of Gibraltar, and northward through the Atlantic ocean to England. That is a distance of over 14,000 miles.



Compare this map with the Rainfall map. Notice that tropical fruits and sugar cane grow in warm regions of heavy rainfall. Dairy cattle require rich grasslands. Beef cattle and sheep are raised in dry grasslands. Notice that most of the mines are in the higher land.

In good years, Australia produces more than twice as much wool as any other country. It is the most valuable product she sends to other lands. When there is rain and the grass is good, the sheep are healthy and the wool crop is large. Then the people are well off, for the sheep growers and dealers have much money to spend. But if one of the terrible years of drought comes, streams dry up and the grass withers. The sheep suffer from lack of food and water. Many of them die. Then there is less wool to sell, and hard times come.

CATTLE RAISING

There are many cattle in Australia. Cattle raising is one of the country's chief industries. Some are raised for dairying, others for their meat, called beef, and for their hides or skins, from which leather is made.

DAIRY CATTLE

Most of the dairy cattle are raised in the southeastern part of the country near the coast, where the climate is mild, where there is much rain in summer, and the pastures have rich grass. Dairy cattle need good food and plenty of water in order to give rich milk. They also need protection from the cold. The dairy farms are near the cities because milk must be delivered at the city homes while it is still fresh and sweet.

Not all the milk is sold to city homes, however. So much of it is made into butter and cheese that there is more of these products than the people of Australia can use. Large quantities are shipped to other countries—principally to England.

There are far more beef cattle than dairy cattle raised, because beef cattle do not need

BEEF CATTLE

such good care and food. Instead of being kept on small farms, the beef cattle are raised on great ranches most of which cover many square miles of land. Some of the beef cattle ranches are on the northern and western coasts of Australia. Many more are on the high grassy slopes to the west of the Great Dividing Range. This, you remember, is also a great sheep country. Here the pasture is not very good and water is sometimes hard to get. Often wells have to be dug to supply it.

When beef cattle are ready for market, they, like the sheep, are driven across country, mile after mile, to the railways and shipping points. Tanks, wells, and dams, along the way, provide water. Sections of good pasture land are also set aside for these traveling herds, as is done for the sheep. But because of the heat and the dry land, the trip is very hard for the cattle, and in times of drought many die on the way.

EXPORTS TO ENGLAND

Besides butter and cheese, Australia sends great quantities of beef and hides to England. With these go much sheep meat, called mutton. All these products, called exports because they are shipped out of the country, have to travel the 14,000 miles between Australia and England. The trip takes a number of weeks. Moreover, the ships have to sail through the Torrid zone where it is very hot. Meat quickly spoils in such heat, and butter and cheese become unfit for use.

REFRIGERATOR SHIPS

To protect the food from spoiling, refrigerator ships are used. These ships have ice, or refrigerating, machines which keep the storage rooms very cold. Each kind of food carried in these ships is given just the amount of cold that will keep it best. As freezing does not hurt it, the meat is frozen hard. Butter and cheese are kept in rooms that are not so cold, as they would not be good if frozen. So all these supplies reach England in perfect condition for use. Australia profits by their sale, and the people of crowded little England have foods they need but which they cannot produce for lack of pasture lands.

I SHOULD REMEMBER

1. Millions of sheep are raised in Australia. Australia leads the world in the value of her sheep products.
2. The best sheep lands are in the Murray-Darling basin. Sheep are also raised on the dry grasslands west of the Great Dividing Range and on the west coast. In these regions the climate is so mild that sheep can live outdoors all the year.
3. Australian sheep produce the finest wool in the world. Small Merino sheep grow much of this wool. It is shipped to England, America, and other countries.
4. Beef and dairy cattle are raised in Australia.
5. The dairy cattle are raised near the cities in southeastern Australia. Much of their milk is made into butter and cheese.
6. Beef cattle are raised on the western and northern coasts and on the high, grassy slopes west of the Great Dividing Range.
7. Australia ships great quantities of beef, hides, butter, cheese, and mutton to England.

SOME THINGS TO TALK ABOUT

1. The uses of sheep.
2. Life on a sheep ranch.
3. Wool and its uses.
4. The importance of wool to the Australians.
5. Dairy cattle in Australia.
6. Beef cattle in Australia.
7. Cattle products of Australia.
8. The value of refrigerator ships.

EXERCISE

1. About how many sheep are there in Australia?
2. Where are the best sheep lands?
3. Tell where there are other sheep lands in Australia.
4. Why are the dry grasslands better for sheep raising than for farms and dairies?
5. Why do the Australian sheep need no shelter?
6. How are the sheep tended?
7. How do sheep reach the markets and seaports?
8. How does Australian wool compare with wool from other countries?
9. Tell about the Merino sheep.
10. Describe the shearing of sheep.
11. What is done with the wool after it is sheared?
12. To what country is most of the wool shipped?
13. Name in order the waters crossed in carrying wool from Sydney to England.
14. Tell how the wool trade affects the people of Australia.
15. How far from the Equator is Sydney?
16. For what two purposes are cattle raised in Australia?
17. For which purpose are more cattle raised?
18. Where are dairy cattle raised? Why?
19. What dairy products are shipped to England?
20. Where are beef cattle raised?
21. How do beef cattle reach shipping points?
22. What provision is made for them on the way?
23. What cattle products are shipped to England? What sheep products?
24. How are foods kept from spoiling while being shipped from Australia to England?

AGRICULTURE AND MINING IN AUSTRALIA

WHEAT AND OTHER CROPS

WHEAT LANDS

The white settlers in Australia quickly discovered that parts of the country were well suited to raising wheat. The first breaking up of the land in a new country is often difficult. Even if there is no tree growth to clear away, there are deep-rooted grasses and bushes. These make hard plowing. However, such new land is often very fertile, producing rich crops. Perhaps in your own neighborhood you have seen lowlands cleared and planted for the first time. If so, you know what fine vegetables and other crops grow in the rich, dark soil. Australia was no exception, and the rich soil helped the early white settlers to grow good crops of wheat.

Wheat needs a good rainfall during the growing season, and dry weather during the time of ripening and harvesting. Except in years of drought, both of these conditions are found in the basin of the Murray-Darling river and in sections of south Australia far to the west of this river basin.

PLANTING AND HARVESTING THE WHEAT

If you visit the Australian wheat lands in the planting and harvesting seasons, you will see much the same sights as in the great grain fields of our own country. The plows, the harvesting machines, or reapers, and the threshing machines that separate the grains from the straw are like those in our own land. In fact, most of them come from our country.

Scientists have developed special types of wheat suitable for growing under Australian conditions. Some types do well in the dry districts. Others do better in farmlands which have more rain. There are about 50,000 wheat farms in Australia.

Like Americans, the Australians use huge buildings called elevators in which to store wheat until it can be shipped to other points. However, the Australian farmers do not have to put their grain in great bins or silos in their barns as we do in America. You will often see long, long piles or stacks of bags filled with wheat. These stacks are often hundreds of feet long and several times as tall as you are, and they are stored right out in the open air. You see, when the Australian harvesting season comes, the weather is really dry. There is no rain at all. On this account, the wheat can be left outdoors until shipped. There is little danger of it being spoiled by moisture.

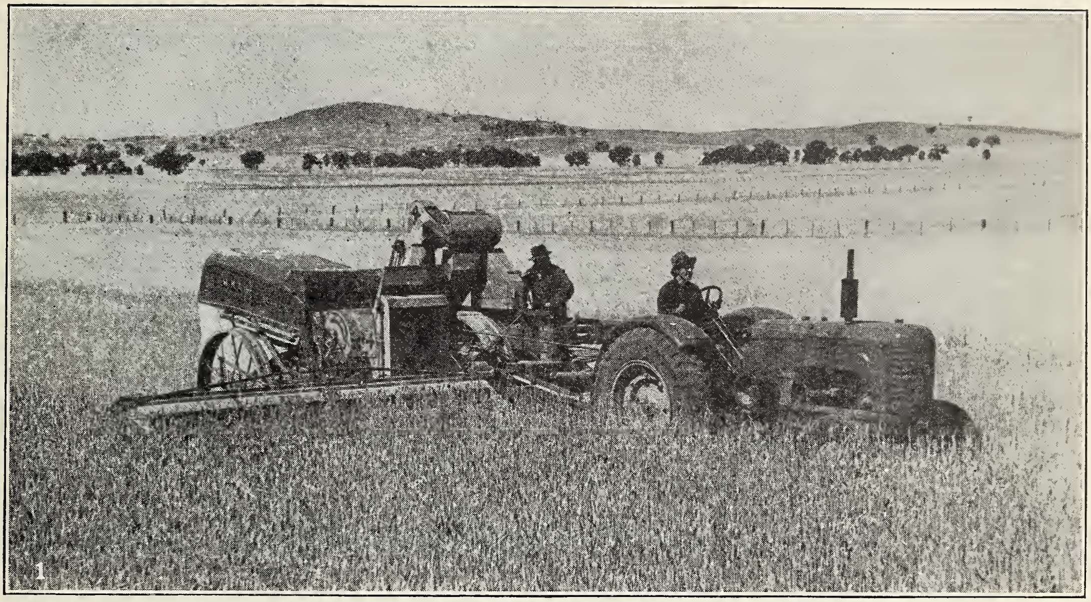
Comparatively few people have settled in the wheat lands of Australia. So there are great tracts of land where much wheat can be grown. In good years Australia can not use all its wheat and great shiploads are sent to England and to other countries. How different are the years of drought!

FRUITS

Because Australia has many kinds of climate, it is possible for her farmers to grow many kinds of crops. Even in the great Murray-Darling basin not all the farmers grow wheat or raise cattle and sheep. If you travel through this region, again and again you will come upon vineyards and fruit orchards. These are irrigated with water from the river.

The grapes are shipped fresh to the cities, or are made into wines or are dried to make raisins. In the grape regions, also, grow many of the other fruits we see at home. There are orchards of peaches, pears, cherries, and apricots. Some of these are sold fresh. Others are canned or dried for later use. Peaches and apricots are the fruits most commonly preserved by drying. Large

GRAINS AND FRUITS IN AUSTRALIA

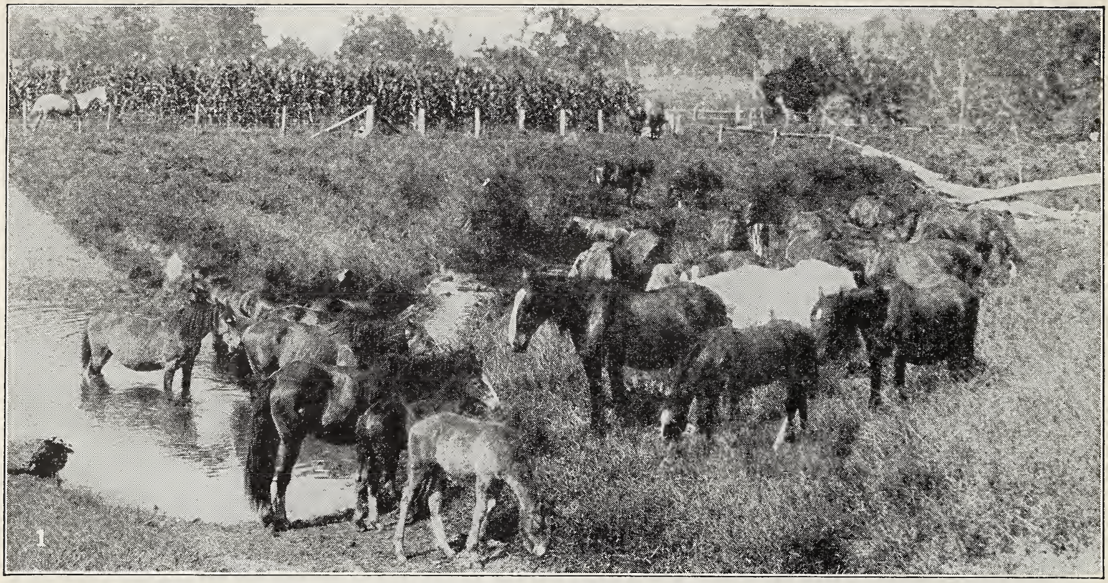


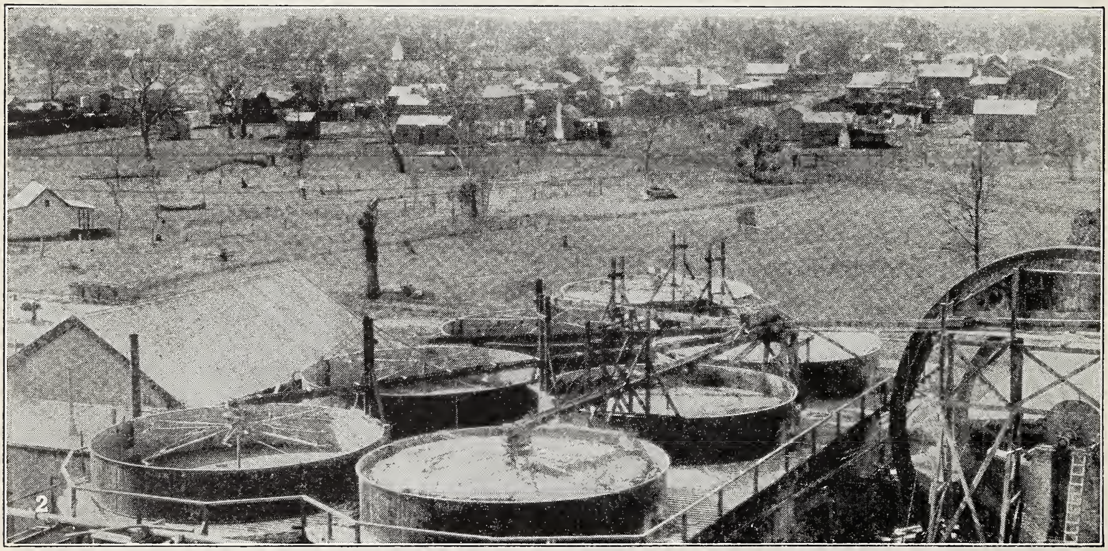
(1) Australian News and Information Bureau, N. Y. (2) Publishers' Photo Service, N. Y.

1. Harvesting wheat in southern Australia. Not many years ago, most of the Australian farmers used old-fashioned methods, but now they have the very latest of equipment. This tractor is pulling a header, which cuts heads from the wheat stalks and sifts the wheat grains into bags. Wheat is the principal grain crop of Australia. Much more is grown than can be used there, and large amounts are exported for use in other countries. Oats and barley are also raised in large amounts. Although this picture was taken in Australia, it looks very much like a scene in the Central plains of our own country. Both the United States and Australia are great wheat-producing countries.

2. Picking peaches in southeastern Australia. In this part of Australia the climate is mild like that in most of our country and there is plenty of rainfall. Almost every kind of fruit which grows in the United States is grown in Australia. Grapes and apples, as well as peaches, are raised in the southeastern part of the continent. Farther north on the eastern coast, oranges and pineapples are grown. We raise very few bananas in the United States. In Australia, there are large plantations of bananas. They are on the northern coast, which is in the Hot belt, where the climate is hot and moist. Australian cities have all the fresh fruits they need, and much fruit is canned for shipment to other lands.

TWO AUSTRALIAN INDUSTRIES





(1) (2) Publishers' Photo Service, N. Y.

1. A farm near the coast in eastern Australia. Along the narrow strip of low land which follows the southern half of Australia's east coast mixed farming is carried on. Many different crops are raised and dairy cows are kept. The farm you see is much smaller than the great cattle and sheep ranches and the wheat farms west of the Great Dividing Range. Land is valuable here because of nearby markets. Not far away is a large city where the farmer sells his crops. Good crops grow on the rich soil. There is plenty of rainfall, and the farmer does not need to irrigate his fields. Water for the animals can be had without drilling artesian wells. See how tall the corn is in the field. It has had plenty of warm sunshine and rain.

2. A mining town in Australia. In the year 1851, gold was discovered in Australia. People everywhere heard about it, and soon miners poured into the country from every part of the world. Each man expected to make his fortune within a short time. Of course these miners had no modern mining machinery. They had to separate the gold from the worthless sand and stone by slow hand methods. Very few of the miners made their fortunes, and many of them left the gold fields without even enough money to pay their way home. Today Australia's mines do not produce as much gold as formerly. But where gold mining is still done it is carried on in modern ways. In these great tanks the gold is separated quickly and cheaply from the sand and rock.

quantities of canned and dried fruits are shipped to other lands.

OTHER CROPS

Up the east coast, farther north than the Murray-Darling basin, are the more tropical fruits. Here one finds oranges and olives and, in still hotter regions, bananas. There are also great fields of pineapples. In these hot regions fresh vegetables are grown during the winter season to supply the cities to the south, which have a cooler climate. This is just the opposite of our country where the south grows vegetables during the winter and sends them north.

Australia even produces her own sugar. The sugar cane is grown on great plantations in the hot, moist lands of the northeast. It is then made into sugar in great factories. When there is more than Australia needs at home, sugar is shipped to other countries.

MIXED AGRICULTURE

If you will look at your globe or your wall map, you will see that the southern half of the Great Dividing Range runs very close to the sea. There is very little low land between it and the ocean. This narrow strip of land, however, has the best climate in Australia. The temperature is moderate and the rainfall is good for growing crops.

Because the region has so good a climate, far more people live there than anywhere else in Australia. Most of the towns and cities are there. Naturally, this leaves less land for the farmer, and the land itself costs more. Because of this the farms are usually small. But though the farms are small in this narrow strip of land between the mountains and the sea, each farmer raises several different kinds of crops instead of just one. This is called mixed agriculture. One little farm will have its dairy, will grow all the common vegetables in season, will raise some wheat, corn, or other grains, and will grow fruits.

To get large returns from his small space the farmer must cultivate his land most carefully. Still, he is well paid for his trouble, because he has his market right at hand. What he and his family do not need can be sent to a nearby city. There the fresh farm products are gladly bought by the people who are busy in other lines of work.

MINES

Besides raising all her different kinds of crops, her sheep and her cattle, Australia is rich in minerals. Gold is found here and there in the eastern, western, and northern parts of the continent. Australia once produced a large part of the world's gold supply, but now her output is much smaller. Silver, lead, tin, copper, and coal are also mined and shipped away.

At best, a miner's life is far from an easy one. But under the hot sun of Australia, such work is especially hard. Still, thousands of men work the mines and live in the makeshift towns which grow up about them.

I SHOULD REMEMBER

1. Wheat needs rain during the growing season, and warm, dry weather during the time of ripening and harvesting. The best sections for growing wheat in Australia are in the basin of the Murray-Darling river and in lands far to the west of this basin.
2. The wheat that is not needed for Australia is shipped to other countries.
3. Because Australia has many kinds of climate it is possible for her farmers to grow many kinds of crops.
4. In the Murray-Darling basin are grape vineyards and orchards of peaches, pears, cherries, and apricots. Much preserved fruit is shipped to other countries.
5. In the hot coast regions oranges, olives,

bananas, and pineapples are grown. Vegetables are raised here for winter use in the cities to the south.

6. Sugar cane is grown in the hot moist lands to the northeast.
7. The narrow strip of land between the southern half of the Great Dividing Range and the ocean has the best climate and the greatest population in Australia. Many kinds of crops are grown in this section.
8. Gold, silver, lead, tin, copper, and coal are mined in Australia and shipped away.

SOME THINGS TO TALK ABOUT

1. Good conditions for raising wheat.
2. The wheat regions of Australia.
3. Storing wheat in our country and in Australia.
4. Some uses of wheat.
5. Fruit-growing in Australia.
6. Preserving fruits.
7. Sugar plantations and sugar-making.
8. Mixed agriculture.

EXERCISE

1. Tell where the best wheat lands of Australia are located.
2. Why is the climate of these regions suited to wheat growing?
3. Why is it harder to prepare new land for crops than land which has been farmed before?
4. Where do the Australian wheat growers get many of the machines they use?
5. How do the Australians store the wheat after it is threshed?
6. Why is it possible to keep the grain out-of-doors?
7. Why is it possible for the Australians to raise more wheat than they need?
8. Where are the main fruit-growing regions of Australia?
9. How are the vineyards and orchards in the Murray-Darling basin supplied with water?
10. From what fruit are raisins made? How?
11. What fruits are raised in southeastern Australia?
12. What is done with these fruits?
13. What fruits are raised in the warmer regions to the north?
14. From what region do the cities of Australia get their fresh vegetables in winter?
15. How is Australia supplied with sugar?
16. What portion of Australia has the best climate? Tell two good things about this climate.
17. Name several kinds of crops raised by the farmers in this region.
18. Where are these products sold?
19. Do few or many people live in this region? Why?
20. Are the farms large or small? Why?
21. What is mixed agriculture?
22. What is mined in Australia?

AUSTRALIA IS GROWING UP

Australia was the last continent to be discovered and settled by white men, but it is growing up fast.

EARLY DAYS OF SETTLEMENT

The Dutch were the first to discover it, but they thought it was too barren and rocky for settlement. An English seaman, Captain Cook, sailed along the east coast in 1770. He saw that Australia was really a great and fertile land. He took possession of it for England.

Eighteen years later, the first English settlement was made at Sydney, which became the capital of the colony called New South Wales. At first, the colony was used as a place to keep prisoners sent from England. They lived in prison colonies near Sydney and had to work very hard. It was not long, however, before people came to realize that Australia was too fine a country to use as a prison. After that, no more prisoners were sent.

After the prison colony was discontinued, settlers began to arrive from England. At first, only the brave and daring went, for the voyage was long and dangerous. In spite of the hardships and dangers, settlers kept coming, making their homes on the fertile eastern coast, starting farms, and raising cattle and sheep, which they carried with them from England.

As in America, settlement in Australia began on the east coast and gradually spread to the west. The frontiers rolled back. Other settlements besides Sydney were made on the east coast, and a few were made on the south and west coasts as well. These settlements grew, and around them were formed colonies, each with its own governor and system of government, in much the same way that the thirteen original colonies were founded in our continent of North America.

During the early days of colonization, explorers were pushing out into every part of the continent. It was a wide, tough land, and it offered a strong challenge to even the bravest explorers. Some of them got lost in the great unknown inland region and were never heard of again. Some perished in the blazing dry heat of the desert, and others in the great steaming swamps along the northern coast. The story of these brave men is a thrilling chapter in the history of Australia.

As more people arrived from England, the explorers were followed by farmers and herdsmen, who took up land on which to grow crops or to pasture sheep and cattle. The discovery of gold in 1851 brought many thousands of people from other lands. Australia began to grow up more quickly.

Towns sprang up in many parts of the country. Many towns grew into cities. Railroads added to the progress of the country. Coal, silver, iron, and other minerals were found in vast quantities. Trade and commerce rapidly increased, and manufacturing industries developed. Australia was rapidly developing from a thinly-settled wilderness into a populated and civilized land.

THE GOVERNMENT

In time, the original colonies in Australia developed into six states, much as the original colonies in America developed into states. The six Australian states were known as New South Wales, Victoria, Tasmania, Queensland, South Australia, and Western Australia. Five of these were on the mainland of the continent, and the other, Tasmania, was on an island off the southern coast. These six states were independent of one another, which meant that it was difficult for them to work well together. To improve this situation, the Australian people in 1901 established a national government, linking all six states together in much the same way that our national government links the forty-eight states of our union together. The Australian national government also runs the affairs of the thinly-populated section of Australia known as the Northern Territory, where there are not enough people to organize another state. For some years, Melbourne served as the capital of Australia, but in 1927 the government was moved to the new capital city of Canberra.

THE PEOPLE

Almost all of the people of Australia belong to the white race. The original dark-skinned natives did not fit very well into civilized ways of life, and there are not very many of them left. Those who remain, live just as they did before the white men came, in special districts which have been set aside for their use.

The invention of automobiles, radios, airplanes, and farm and factory machinery has enabled Australia to develop very quickly. But large areas still await settlement and development. In the west and far north are open frontier lands, full of adventure and opportunity. Considering her size, Australia still has very few people. There is need of many, many more who are willing to work hard in this prosperous new country. Families from England and America are given help and encouragement if they want to move to Australia. Many have done so, and are helping in the development of the great island continent.

I SHOULD REMEMBER

1. Australia was the last of the continents to be settled by white men.
2. The early settlers started farms on the east coast. Later other settlements were made on the western and southern coasts.
3. The early settlements grew into colonies and then into six states, which united in 1901 to form a national government.
4. Most of the people of Australia belong to the white race. There is still need for many more people from America and England to settle there.

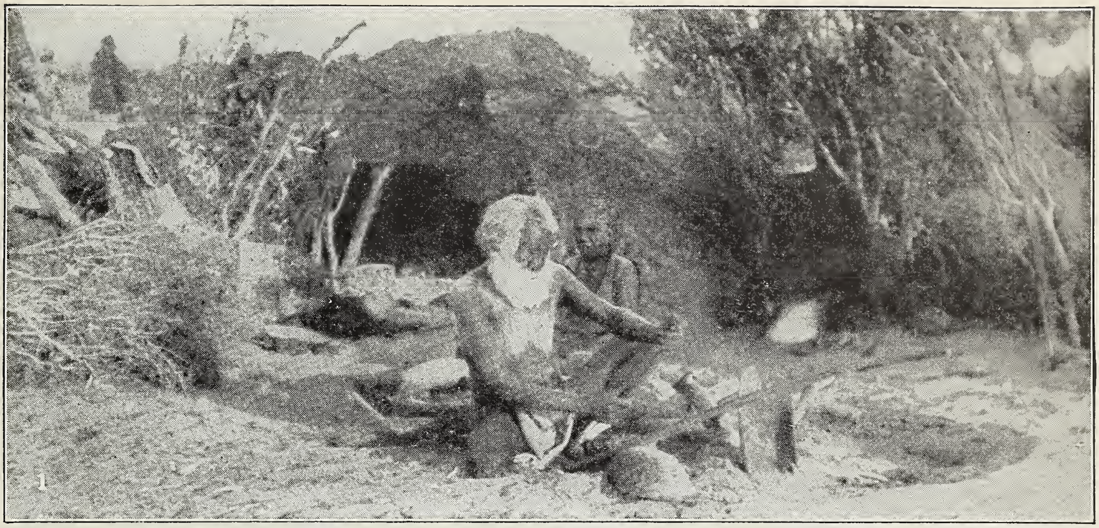
SOME THINGS TO TALK ABOUT

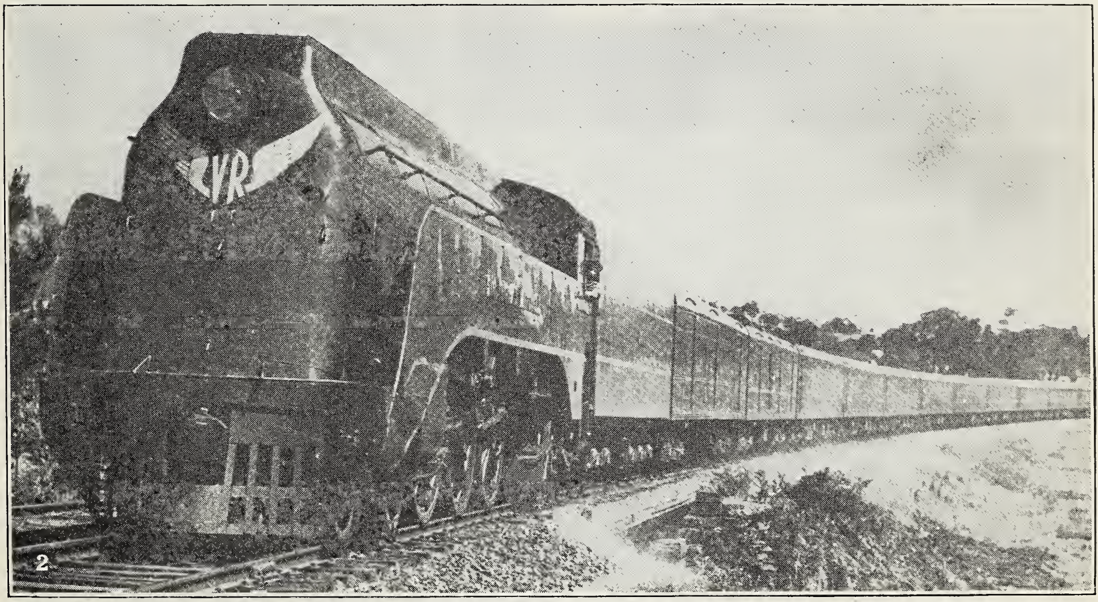
1. The first settlements in Australia.
2. Exploration in Australia.
3. How Australia became a nation.
4. The people of Australia.

EXERCISE

1. When was Australia first settled by white men?
2. Tell about the first settlements.
3. What part of Australia was settled first?
4. How did separate colonies grow up in Australia?
5. What were some of the things which attracted settlers to Australia?
6. Into what six states is Australia divided?
7. Why did the people of Australia form a national government for their country?
8. What is the capital of Australia?
9. Tell about the original Australian natives.
10. Why does the Australian government give help and encouragement to families from America and England who wish to move to Australia?

OLD AND NEW IN AUSTRALIA



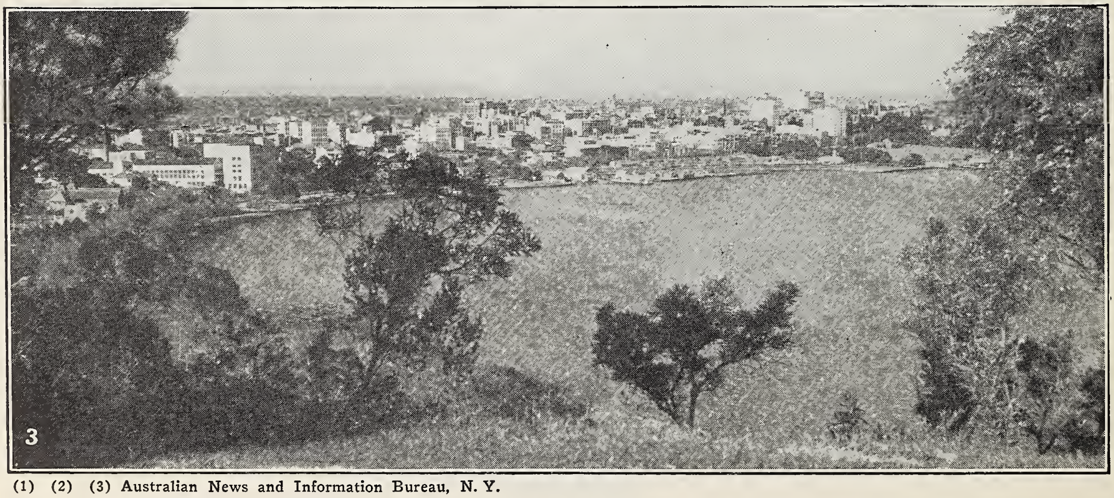


(1) Official Secretary for Australia in U. S. A. (2) Australian News and Information Bureau, N. Y.

1. An Australian blackfellow and his wife. "Blackfellows" is the name given to the natives of Australia by the first white men who went there. These natives are very backward people who live on wild plants and by hunting animals with boomerangs and clubs. The boomerang is a heavy curved stick which will kill instantly if properly thrown. If the boomerang misses its mark, it will follow a curved course and come back to the point from which it was thrown. This man and his wife live in the little hut you see. It has a dirt floor and a roof of sticks and branches. Some thick branches have been driven into the ground to make a sort of hedge or fence around the hut to protect it from the wind. The white settlers in Australia pushed the natives back farther and farther into the waste lands. Today they live in special districts set aside for their use. There are not many of the blackfellows left.

2. A fast, modern Australian railroad train. This train, which whizzes along at a top speed of seventy miles an hour, is just as luxurious as any of the trains in our own country. The cars are air-conditioned so that they are cool even in hot weather, and they are made sound proof for the comfort of the passengers. All parts of this train were made in Australia by Australian workmen. Railroads and airlines now make travel in Australia nearly as rapid, easy, and comfortable as travel in our own United States.

CITIES OF AUSTRALIA



(1) (2) (3) Australian News and Information Bureau, N. Y.

1. The government buildings in Australia's capital city of Canberra. Canberra lies among the mountains in the southeastern part of the continent. It is a new city, and is built somewhat like Washington, the capital of our country. Canberra has been carefully planned and laid out and is becoming more attractive each year.

2. A street scene in Melbourne, the second largest city in Australia. Only Sydney is larger. Melbourne lies on a deep bay and has a fine harbor. The city has grown very fast, and now has more than a million people. It is about as far south of the Equator as our capital city of Washington is north of it, so Melbourne has a temperate climate about like that of Washington. The two men in the picture are an American and an Australian soldier. Many American soldiers were stationed in Australia during World War II.

3. The city of Perth, in western Australia. Perth is an important seaport, with a population of nearly a quarter of a million. It is about as far west of Sydney as San Francisco is west of New York City, but modern railroads and airlines make it possible to travel quickly between Perth and the cities on Australia's eastern coast. Ships from Perth carry Australian goods to Europe by way of the Indian ocean and the Suez canal.

POPULATION OF AUSTRALIA

THE NATIVES

The early settlers in Australia found black people living there. They wore no clothes, excepting possibly some animal skin for warmth. They lived on animal foods, eating even the meat of snakes if nothing better was at hand. They had no homes but merely wandered about the country sheltering themselves in the worst weather under any sort of rude hut they could put up.

The settlers soon pushed the natives back into the interior of the country, where the few who are left still live much as they did when white men first went to Australia.

SETTLERS MOSTLY ENGLISH

The men who took possession of the continent were almost all from the mother country, England. Nearly all the people who later settled there were also English. Few other white people, and almost no yellow or brown people, live in Australia.

How different this is from our own country! You remember how people from the Mediterranean lands of Spain, France, Italy, and Greece came to our land to live? White people from many other lands have come to America. Red people, the Indians, have lived in America as long as we know. Black people, the Negroes, were brought here to serve as slaves. Yellow people, the Chinese and Japanese, have come in large numbers. Many, many races live in our country.

CITIES

Although sheep and cattle raisers, farmers, and miners have gone far into Australia, most of her people live near the eastern, the southeastern, and the southwestern coasts. Here, where the climate is temperate, are most of the large cities.

There are five seaport cities. Brisbane is about halfway up the east coast. Five hundred miles to the south is Sydney. Next, in the southeastern corner, comes Melbourne. Northwest of it, near the mouth of the Murray-Darling river, is Adelaide, and over on the southwestern coast is Perth. All these cities look much like our seaports. Newcastle, one hundred miles north of Sydney, has iron and steel plants like those of Pittsburgh.

Sydney is the largest of the Australian cities. You would like Sydney, and you would feel very much at home there. Its streets are broad and well-paved. There are fine stores, beautiful, tall buildings, a splendid public library, an interesting museum, a university, and many fine parks. During the summer months, large numbers of people flock to the beautiful sandy beaches to swim.

Sydney has a fine, deep harbor. Ocean steamers can come right up to the long docks, to load and unload their cargoes.

From Sydney are exported each year many shiploads of wool, wheat, meat, hides, skins, and cheese. From other countries the ships bring to her docks cotton and woolen cloth, iron, farm machinery, paper, and other supplies. These are called imports.

Canberra, the capital of Australia, is a small city southwest of Sydney on a plateau in the mountains. Like our own capital city of Washington, Canberra is not in any one of the states into which Australia is divided. It is in a little area of land called the Federal District.

The city of Canberra was begun only a few years ago. It is laid out much on the plan of Washington. In the center of the city are the beautiful stone Capitol and Parliament buildings. From these buildings, streets lead out in all directions, like the spokes of a wheel. Other streets cut across these, making great circles. If you ever go to Washington, you will see how such an arrangement of streets makes it easy to get from one part of a city to another.

I SHOULD REMEMBER

1. Most of the people of Australia came from England and belong to the white race.
2. Our own country has people from every part of the world. Red, yellow, and black people live here, as well as white people from many lands.
3. Most of the people of Australia live near the eastern and southeastern coasts and along the southwestern coast.
4. The five important cities and seaports of Australia are Brisbane, Melbourne, Sydney, Adelaide, and Perth.
5. Sydney is the largest city. It has a splendid harbor and great docks. Ships carry away wool, wheat, meat, hides, skins, and cheese. They bring from far countries cotton and woolen cloth, iron, farm machinery, paper, and other supplies.
6. Canberra, the capital, is a small new city on a mountain plateau.

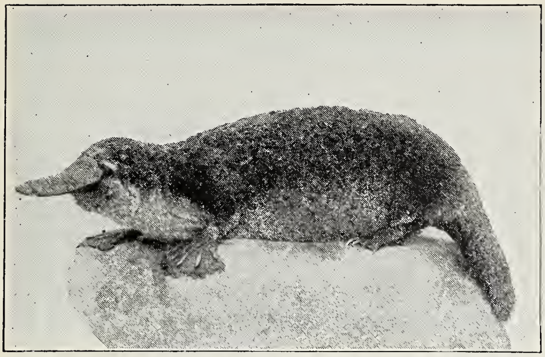
SOME THINGS TO TALK ABOUT

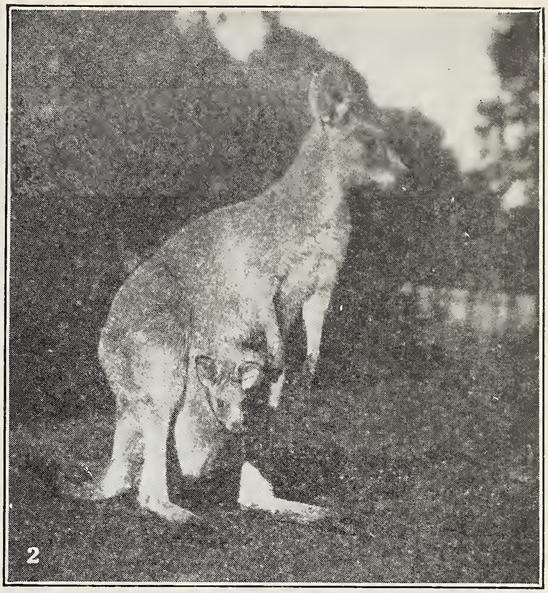
1. Differences between our population and that of Australia.
2. The cities of Australia.
3. The capital of Australia.

EXERCISE

1. From what nation have most of the Australian settlers come? Why?
2. Where do most of the Australians live?
3. Name and give the locations of five large cities of Australia.
4. Which is the largest city?
5. Give a brief description of Sydney.
6. Name five exports of Sydney. Name four imports.
7. What is the capital of Australia? Where is it located?
8. Tell how Australia's capital city is planned.
9. Like what city is Canberra laid out?

SOME LIVING THINGS OF AUSTRALIA





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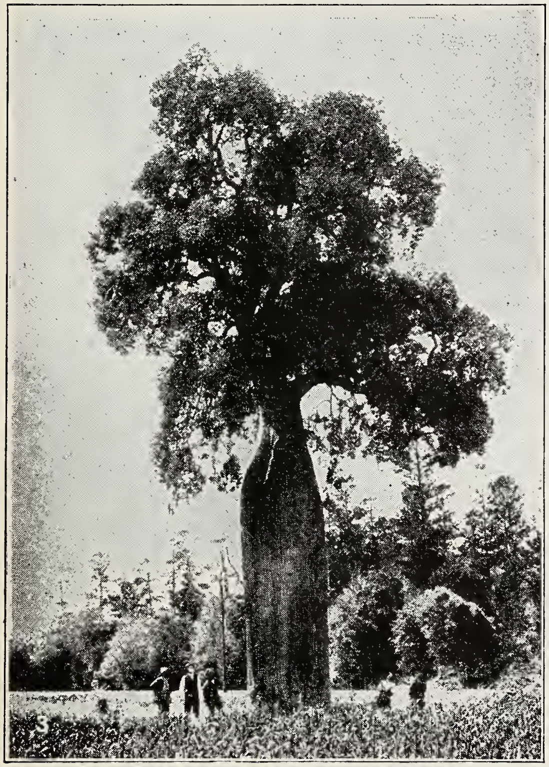

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(1) (3) Brown Brothers, N. Y. (2) Australian News and Information Bureau, N. Y. (4) Keystone View Co., N. Y.

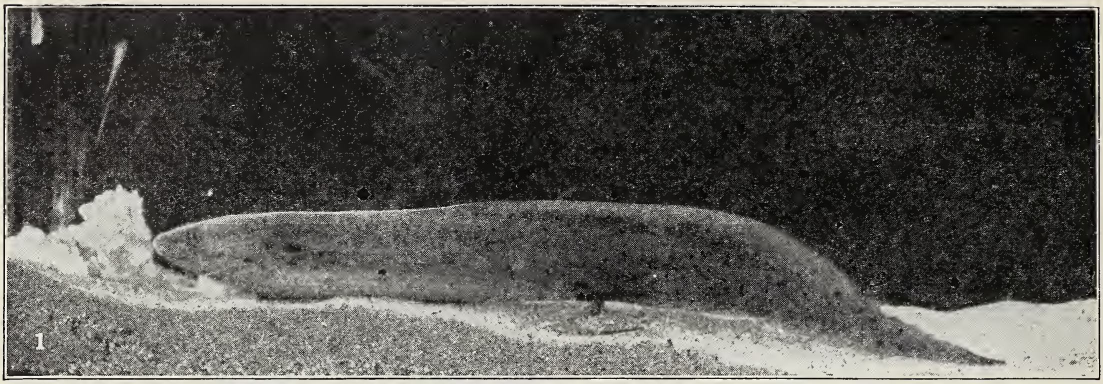
1. A platypus—one of Australia's many queer animals. The platypus, or duckbill, lives in the rivers of southern Australia, feeding on plants that grow in the water. Its home is a hole in the ground with two openings. One leads into the water. The other leads to the surface of the land. The platypus has a broad, flat bill like a duck. Its feet are webbed, which makes it possible to swim easily. But, strangest of all, the furry platypus is hatched from an egg, just as a duck or chicken is.

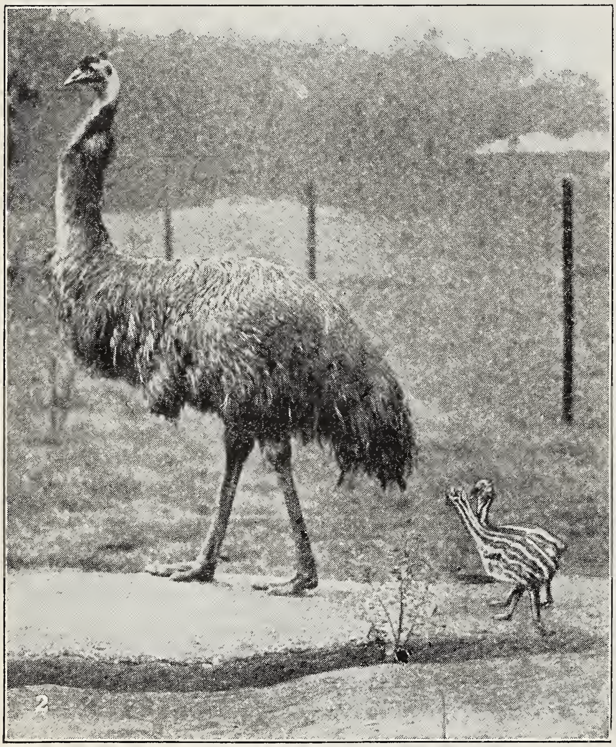
2. A mother kangaroo with a baby in her pouch, which is a kind of pocket on the front of her body. A baby kangaroo is very small when it is born, and it spends most of the time during its early months of life in its mother's pouch. The kangaroo's hind legs are long and powerful. They carry him along rapidly in great leaps. When white men first went to Australia, they were very much astonished to see this strange animal, which is not found in any other part of the world.

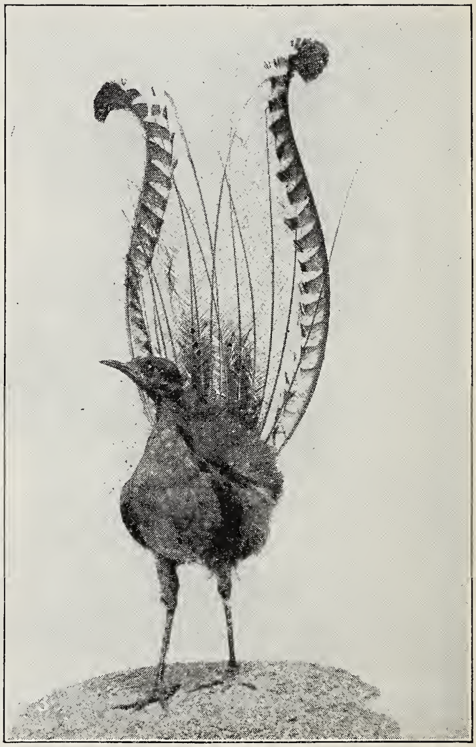
3. A bottle tree of Australia. Many Australian plants and trees are as queer as the animals. This great tree is shaped like a bottle. The trunk grows thick and straight and tall and then narrows to a neck, from which the limbs of the tree grow.

4. Giant ferns of Australia's tropical forests. The ferns that grow wild in the woods of our country are low plants and have slender stems. These huge Australian ferns are really trees. They have large trunks and leaves, and roots that reach deep down into the ground.

FISH AND BIRDS OF AUSTRALIA







(1) (3) Brown Brothers, N. Y. (2) Photograph from Wide World.

1. An Australian lungfish. This strange fish has gills like an ordinary fish, which enable it to breathe in water, and it also has lungs, for breathing air. The lungs are useful to it, for in some parts of Australia during the dry season no rain falls for weeks, and often the brooks and rivers dry up entirely. Most fish would die without water. But the lungfish can live in either water or air. When the streams go dry they burrow in the mud of the stream beds and wait for water to come again.

2. An emu and her family. This bird of Australia is somewhat like an ostrich. The little emus were hatched from large blue eggs just three weeks before the picture was taken. They are still covered with very soft striped down. When they are older their feathers will be dark and heavy like their mother's. Not many emus are left in Australia. Most of that continent's queer wild animals are gradually being killed off.

3. A lyre bird, one of the many lovely wild things found only in Australia. See what a remarkably shaped tail this bird has. It looks like a lyre—a musical instrument used in olden times. The tail feathers are very beautiful and brightly colored. The lyre bird lives in the wildest parts of Australia and is so shy that few people have ever seen one.

ODD PLANTS AND ANIMALS OF AUSTRALIA

Many of the animals of Australia are different from any animals you have ever seen. Some are found nowhere else in the world. And how strange many of them are!

THE KANGAROO

Perhaps the Australian animal you know best is the kangaroo. You may have seen one in a zoo or a circus. The great gray kangaroo is the largest wild animal in Australia. Often it is taller than a man. Then there are other kangaroos which vary in size from these big gray fellows down to a tiny creature called the rat kangaroo.

All the kangaroos have long, powerful hind legs and very short front legs. They have long heavy tails that help them in balancing themselves when sitting up or when moving. These animals do not run but jump along on their hind legs. How they can hop! Measure off twenty feet on your classroom floor. That represents a fair leap for large kangaroos. They can hop along as fast as a horse can run.

A baby kangaroo is very helpless. Its mother has to carry it around with her for some time. She does this by placing the youngster in a large pouch, or pocket, of skin that grows on her stomach. Here the baby rides comfortably, sticking its head out to see what is going on.

OTHER STRANGE ANIMALS

The only large Australian animal which hunts is the dingo, or wild dog. The dingo is a wolf-like creature covered with reddish hair. It has given the settlers much trouble because it likes to hunt and kill sheep.

You would be especially interested in the platypus, or duckbill. This little creature is covered with fur and looks somewhat like a fat muskrat, only it has a flat bill like a duck, and webbed feet. It lives in a hole in the ground, with one opening leading into the water and one leading to the surface of the land. When going to sleep, it rolls itself into a ball. Oddly enough, this creature lays eggs and hatches them. You would really wonder whether to call it an animal or a very queer bird.

Another strange creature is the flying squirrel, whose legs are connected by a web of skin. When it leaps from a branch and stretches out its limbs, it can sail like the gliders some boys make. The skin makes it possible for the squirrel to sail quite a distance through the air.

FISH

Even some of the fish are strange creatures. As we have seen, Australian streams have a bad habit of drying up. None of our fish would live if that happened. But the Australian lung fish manages to get along even if all water disappears. Like all fish, it has gills for breathing in water. It also has lungs for breathing in air. When the river dries up, the lung fish simply burrows deep in the mud and breathes through its lungs.

BIRDS

The many beautiful birds of Australia would delight you. Some, like the brightly colored parrots, are similar to birds of other lands. Others are found only in Australia. Among these is the lyre bird. It is so named because of its beautiful long tail feathers, which spread out in the form of a harp-like instrument called the lyre.

Australia also has a great bird, the emu, which is somewhat like the ostrich of Africa. Its feathers, however, are not as valuable as those of the ostrich. The emu does not fly. It runs along the ground, and can travel at high speed.

In this land of strange creatures are also

PLANT LIFE

many odd and unusual plants. The most common forest tree is the eucalyptus, which supplies very fine lumber. Its leaves and bark also contain valuable oils. Certain varieties of the eucalyptus are the tallest trees in the world, sometimes growing higher than the great trees of California. These trees have small tops, and their leaves turn their edges to the sun, so that they cast little shade on the forest ground beneath. Some varieties of eucalyptus trees have bluish leaves, instead of green; others have gray leaves.

In the dense northern forests are many palms. There are enormous ferns, too, which grow as tall as trees. There are also strange grass trees, whose trunks sometimes grow ten feet in height and are crowned with long, thin, grass-like leaves. Besides these, Australia has the bottle trees which have trunks shaped like enormous bottles. And, too, there are odd trees that shed their bark instead of their leaves.

Even the dry brush lands have strange growths. There are the wattle bushes with leaves shaped like spikes. There are salt bushes whose leaves the cattle eat because of the salt they contain. There are clumps of porcupine grass so strong and spiny that one can not push his way through it. Many of the bushes growing in the dry lands have very, very long roots that go far into the ground to reach moisture. So you see that nearly every part of Australia has plants that you can find nowhere else in the world.

I SHOULD REMEMBER

1. Australia has many animals found nowhere else in the world. Among them are the kangaroo, the dingo, or wild dog, and the platypus, which is somewhat like a muskrat.
2. Noticeable birds of Australia are the lyre bird and the emu.
3. The eucalyptus is the common tree of Australia. Among plants of the dense forests are tree ferns, grass trees, and bottle trees. Odd growths of the brush lands are wattle bushes, salt bushes, and porcupine grass.

SOME THINGS TO TALK ABOUT

1. Animals of Australia that do not exist in other continents.
2. The kangaroo and its habits.
3. The platypus.
4. The eucalyptus tree and how it is used.
5. Odd plant growths of Australia.

EXERCISE

1. Describe the kangaroo.
2. Tell how the baby kangaroo is carried about.
3. Describe the dingo. Why is he troublesome to the settlers?
4. Name five facts about the platypus.
5. How is the Australian squirrel different from our common squirrel?
6. Tell about the lung fish.
7. Name and describe two birds of Australia.
8. What is the most common tree of Australia? Describe it. For what is it valuable?
9. Name and describe three other trees of Australia.
10. Name and describe three odd plants of the brush lands.

ANIMALS TAKEN TO AUSTRALIA BY THE ENGLISH

Not all the animals seen in Australia are different from those of other lands. There are several kinds which might be found almost anywhere. These animals did not travel over to Australia by themselves. If you look at your globe you will see how impossible that would be.

Unlike the other continents, Australia stands by itself, wholly surrounded by water. North and South America are connected with each other by the isthmus of Panama. North America is joined to Asia much of the year by ice sheets. Europe and Asia are really one great body of land. Asia and Africa are joined by the isthmus of Suez. So, animals can pass from one continent to another, except in the case of Australia. If they are to reach Australia, they must be taken there.

ANIMALS TAKEN TO AUSTRALIA

You remember that the English brought sheep and cattle to Australia. These animals increased rapidly in numbers. Much of Australia's wealth today comes from her sheep, beef cattle, and dairy industries.

English settlers also brought over horses for farm work. Many of them are now raised in Australia. They are used in farming. They haul the great freight wagons in which goods are carried to and from the railways. They are used as saddle horses by herdsmen and travelers.

To help explore the Australian desert, camels were brought from Africa. They seemed to feel very much at home in the desert lands, which are so like the Sahara. They have proved a great help in carrying men far into the desert, and in carrying food and supplies to the desert mining camps.

Many years ago a few deer were brought to Australia for hunting purposes. These animals, too, found the new country to their liking. Today there are many of the beautiful creatures in the grasslands and forests of the island-continent.

A TROUBLESOME PET

Without realizing it, a few of the early settlers made a great mistake by bringing over rabbits for pets. Some of these rabbits escaped. Because the climate was mild and there were few wild animals to hunt them, they increased very fast. Soon there were millions and millions of them. They spread out over the farmlands and grasslands, eating crops and feeding on the grass the sheep and cattle needed.

It was not long before the rabbits were seen to be a very dangerous pest. They were making the cattle and sheep go hungry. So the rabbits were hunted. But still they grew in numbers. Finally wire fences, hundreds of miles long, had to be built to shut them away from the best lands. The rabbits inside were killed or driven out. Gates were built in the fences for people to pass through. Today if a person fails to shut a gate after him he has to pay a heavy fine.

Yet the many, many rabbits are not useless. They are hunted for their meat and their skins. The meat is frozen and shipped to England. Our country buys large quantities of rabbit skins from Australia. The skins are used with wool in making a fine quality of felt, from which hats are made.

I SHOULD REMEMBER

1. Animals of other continents can not cross to Australia because it is entirely surrounded by water.
2. The English settlers brought sheep and cattle, horses, camels, deer, and rabbits to Australia.

SOME THINGS TO TALK ABOUT

1. How animals can get from one continent to another.
2. Why new settlers brought animals to Australia.
3. The rabbit pest of Australia.
4. Uses which are now made of the rabbits.

EXERCISE

1. Why is it impossible for wild animals of other continents to reach Australia?
2. Name six animals introduced into Australia by the English settlers.
3. Which of these animals have proved helpful as work animals?
4. Which of these animals have helped Australia build up great industries?
5. Which of these animals has proved to be a great pest? Why?

WAYS IN WHICH AUSTRALIA IS DIFFERENT

How many, many odd things you have learned about Australia. You have seen how one part differs from another. You have seen how Australia differs in some ways from all the rest of the world. That is why this continent is called the "land of contrasts."

DIFFERENT KINDS OF LAND

Think of the different kinds of country. There are the tropical lands at the north, the temperate lands of the south, and the great deserts inland. In the southeast is a mountain higher than any mountain in the United States east of the Mississippi. Near the center of Australia the land is below sea level.

SEASONS TURNED AROUND

How the changes in the seasons would upset you at first. How strange it would seem to go south to reach cooler weather, to have summer when you would have winter at home, and fall when you would be looking for spring.

QUEER-ACTING WATERS

You are used to seeing rivers that flow all the year. Australia has rivers that often dry up. Ordinarily, rivers grow larger at their mouths. Australia has rivers that grow smaller as they near the sea. You remember, too, the great area where water which is needed comes not directly from streams, but from wells reaching far down through the ground into rock.

PECULIAR TREES AND PLANTS

You remember how unusual is the plant growth in Australia. Instead of the thick shade of our forests the ground under the eucalyptus trees is sunny because the tree tops are small and the leaves turn their edges to the sun. Some of them are gray instead of green. There are trees that shed their bark instead of their leaves. There are ferns that grow to the size of trees, and grasses and trees that grow roots far, far down into the earth to seek moisture, because of lack of rain.

ODD ANIMALS

Think, too, of the strange animals. Picture to yourself the kangaroo, that can jump along on its two hind legs as fast as a horse can run. Then there is the odd platypus that lays eggs like a bird. Remember the rabbit, so often a pet in this country, but in Australia a great pest. As you think back you will remember many other contrasts between what you saw in the six larger continents and in their little sister continent, Australia.

SOME THINGS TO TALK ABOUT

1. Australia's seasons and ours.
2. Australia's rivers and ours.
3. Some ways in which Australian wild animals differ from ours.
4. Some ways in which Australian plants differ from ours.

EXERCISE

1. What are the summer months in Australia?
2. In what direction would you go from your home to reach a warmer climate? In what direction would you go from Sydney to reach a warmer climate?
3. Name two differences between some of Australia's rivers and our rivers.
4. Name some animals of Australia that are different from the animals in our country.
5. Tell three ways in which certain plants of Australia differ from plants in your neighborhood.
6. Name four other contrasts between Australia and our own land.

CLASS PROJECT

Divide the class into ten groups. Below are given ten topics. Have each group gather all the information possible on the topic assigned to it. Select one member of each group to tell the class what the group has learned. Then have the class discuss the differences between life in Australia and life in the other regions already studied.

AUSTRALIA

1. Location
2. Climate
3. Surface features
4. Plant life
5. Animal life
6. Inhabitants
7. Food, clothing, and shelter
8. Means of travel
9. Occupations and customs
10. Products

DEFINITIONS OF GEOGRAPHICAL TERMS

NOTE. These are not complete definitions. They are simple, descriptive definitions which give the child an understanding of the terms used in the text.

Altitude: Height above the level of the sea. *Example:* Mount Kosciusko in Australia has an altitude of over 7,300 feet.

Antarctic Circle: An imaginary line running around the earth 66½° south of the Equator. It separates the South Temperate zone from the South Frigid zone.

Arctic Circle: An imaginary line running around the earth 66½° north of the Equator. It separates the North Temperate zone from the North Frigid zone.

Artesian well: A well from which water flows continuously. *Example:* The Artesian wells of Australia.

Avalanche: A great mass of snow and ice, or of earth and rocks, sliding down a mountain side. *Example:* The avalanches of Switzerland.

Axis of the Earth: An imaginary line running through the earth from the North Pole to the South Pole.

Basin: The land drained by a river and its tributaries. *Examples:* The Amazon basin, the Congo basin.

Bay: A body of water extending into the land. *Examples:* Chesapeake bay, San Francisco bay.

Beach: A stretch of low, flat, usually sandy, shore.

Bight: An open bay. *Example:* The Great Australian bight.

Canal: A waterway built by man. *Examples:* Suez canal, Panama canal.

Canyon: A deep, narrow valley with steep sides, usually caused by the wearing away of rock and soil by a stream. *Example:* Canyon of the Yellowstone river.

Cape: A point of land extending into the water. *Examples:* Cape Arnhem, Cape York.

Coast: The seashore.

Continent: One of the seven great bodies of land, which are Asia, Africa, North America. South America, Europe, Australia, and **Antarctica**.

Current: The more swiftly moving water in a stream or other body of water. *Examples:* The Gulf stream, the Japan current.

Delta: A low, flat plain at the mouth of a river, formed by mud deposited by the river. *Examples:* The Nile delta, the Rhine delta.

Desert: A region having little moisture or plant life. *Examples:* The Sahara desert, the American desert.

Dike: A wall of dirt, stone, or cement built to keep the sea or other waters from flooding lowlands. *Example:* The dikes of the Netherlands.

Divide: High land separating river basins. *Examples:* The Continental Divide, the Great Dividing Range.

Dune: A low, rounded hill of sand. *Examples:* The sand dunes of the Sahara, the dunes of the Netherlands.

Equator: An imaginary line running around the earth midway between the North and the South Poles.

Fiord: A deep, narrow bay bordered by high, steep hills. *Example:* The fiords of Norway.

Forest: A large tract of land covered with trees. *Example:* The forests of the Congo basin.

Geography: The study of the earth and life on the earth.

Geyser: A hot spring which hurls water and steam high in the air. *Example:* The geysers of the Yellowstone National Park.

Glacier: A slow-moving river of ice. *Examples:* The glaciers of the Arctic regions, the glaciers of Switzerland.

Gorge: A narrow valley with steep, rocky sides. *Example:* The gorges of Switzerland.

Grasslands: Plains covered with grass. *Example:* The Grasslands of Africa.

Gulf: A large bay. *Examples:* The Gulf of St. Lawrence, the Gulf of Carpentaria.

Harbor: A bay where ships may find safe shelter from storms. *Examples:* The harbors of Amsterdam and Rotterdam.

Highlands: A name given to hilly or mountainous country. *Example:* The Western highlands of the United States.

Hill: A high mound of land. *Example:* The hills of the Appalachian highlands.

Horizon: The line where earth and sky seem to meet.

Irrigation: The watering of dry lands for the purpose of raising crops.

Island: A body of land entirely surrounded by water. *Examples:* Newfoundland, Australia.

Isthmus: A narrow neck of land joining two larger bodies of land. *Examples:* Isthmus of Suez, isthmus of Panama.

Jungle: A dense forest in the Hot belt. *Examples:* The jungles of the Amazon basin and the Congo basin.

Lake: A large inland body of still water. *Example:* Great Salt Lake.

Latitude: Distance north or south of the Equator, measured in degrees.

Marsh: A section of flat, muddy land covered with water grass.

Mountain: A very high hill. *Examples:* The Rocky mountains, the Alps mountains.

Mountain pass: A narrow passage between mountains. *Example:* The passes of the Alps mountains in Switzerland.

Mountain range: A series of connected mountains. *Example:* The Rocky Mountain range.

Mud flat: A low, muddy section of the seashore which is covered with water at high tide. *Example:* The mud flats of our northeastern coast where clams are dug.

North Pole: The extreme northern point of the earth.

Oasis: A spot in a desert where there are springs or wells, and where plants grow. *Example:* The oasis of Biskra in the Sahara desert.

Ocean: One of the five great bodies of water. The five oceans are the Pacific, the Atlantic, the Indian, the Arctic, and the Antarctic.

Peninsula: A large body of land extending into the water. *Example:* The peninsula of Greece.

Plain: A level tract of land. *Example:* The Central plains of the United States.

Plateau: A high plain. *Example:* The plateau of the Congo basin.

Polders: Sections of low land taken from the sea by enclosing them with dikes. *Example:* The polders of the Netherlands.

Reef: A ledge of rock just below the surface in a body of water.

River: A large stream of water. *Examples:* The Hudson river, the Amazon river.

Sea: A body of salt water smaller than an ocean. *Examples:* Mediterranean sea, Arabian sea.

Sound: A body of water larger than a strait, which connects two larger bodies of water or which lies between an island and the main shore. *Example:* Long Island sound.

South Pole: The extreme southern point of the earth.

Strait: A narrow body of water connecting two larger bodies of water. **Example:** The Strait of Gibraltar.

Temperature: Amount of heat.

Terrace: A level place on the side of a hill. *Example:* The terraces on the hills along the Mediterranean.

Tides: The regular rising and falling of the ocean twice a day.

Tributary: A river or stream which flows into, or feeds, a larger river or stream. *Example:* The tributaries which feed the Amazon river.

Tropic of Cancer: An imaginary line running around the earth 23½° north of the Equator, separating the North Temperate zone from the Torrid zone.

Tropic of Capricorn: An imaginary line running around the earth 23½° south of the Equator, separating the Torrid zone from the South Temperate zone.

Valley: A stretch of low land lying between hills or mountains. *Example:* The Swiss valleys.

Volcano: A mountain from which fire, smoke, ashes, and melted rocks are thrown out. *Example:* Mount Vesuvius.

Waterfall: Water falling over a cliff. *Example:* The waterfalls of Switzerland.

Watershed: High land separating river basins. *Examples:* The Continental Divide, the Alps watershed.

Zones: The five great divisions of the earth according to temperature. The five zones are the Torrid zone, the North and South Temperate zones, and the North and South Frigid zones.

PRONOUNCING INDEX

PEOPLES OF OTHER LANDS

KEY TO PRONUNCIATION

ā as in āle, māker
ă as in ăm, hăt
ă as in fin*ă*l, *ă*ccount
â as in pârent, câre
ä as in ärm, fäther
ȧ as in ȧsk, stȧff
ȧ as in sof*ȧ*, ide*ȧ*

ā̂ as in savā̂ge, senā̂te
ē as in ēve, concrēte
ĕ as in ĕnd, pĕt
ĕ as in rec*ĕ*nt, nov*ĕ*l
ē̂ as in sociē̂ty, ē̂vent
ẽ as in evẽr, readẽr
ī as in īce, chīld
ĭ as in pĭt, ĭll

ō as in ōld, nōte
ŏ as in nŏt, hŏt
ŏ as in c*ŏ*ntented
ô as in lôrd, ôrder
ō̂ as in ō̂bey, tō̂bacco
ö as in coöperate
oi as in oil, boil
o͞o as in mo͞on, bo͞ot

o͝o as in bo͝ok, lo͝ok
ou as in out, house
ū as in ūse, cūbe
ŭ as in ŭp, tŭb
ŭ as in circ*ŭ*s
û as in bûrn, hûrl
ū̂ as in ū̂nite

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